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IN THE

Supreme Court of the United States

ACCUSCAN, INC.,

Petitioner,

v.

XEROX CORPORATION,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

JOHN F. SWEENEY
Counsel of Record
KENNETH S. WEITZMAN
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, New York 10154
(212) 758-4800

Attorneys for Petitioner
AccuScan, Inc.

QUESTIONS PRESENTED

This Court recently granted *certiorari* in *Festo Corp. v. Shoketsu Kinzoku Kogyo Co.*, 234 F.3d 558 (Fed. Cir. 2000), *cert. granted*, 121 S.Ct. 2519, 150 L.Ed.2d 692 (Jun. 18, 2001) (No. 00-1543), to consider whether claim-element amendments related to the patentability of an invention made during the prosecution of a patent give rise to an absolute bar to the doctrine of equivalents as to those elements. Pending the outcome of this Court's decision, the United States Court of Appeals for the Federal Circuit continues to circumscribe and narrow the application of the doctrine of equivalents.

The Federal Circuit has now cited the law announced in *Festo* to impose a bar upon the doctrine of equivalents, based solely upon a claim term interpretation to determine literal infringement. The Appeals Court panel's decision constitutes a significant addition to the body of law, via the unprecedented application of argument-based interpretation of claim terms in summarily estopping the doctrine of equivalents. This discretion also displaces fact-based infringement findings from the determination of juries.

The questions presented, therefore, are:

(1) Whether the holding of *Festo* can be expanded to allow claim term interpretations of non-amending arguments to bar literal patent infringement and to estop summarily the doctrine of equivalents;

(2) Whether invocation of such summary estoppel adds significantly to the body of law; and

(3) Whether unchecked judicial discretion in summarily applying argument-based claim interpretations to estop the doctrine of equivalents circumvents the Seventh Amendment right to a jury trial in patent infringement cases.

PARTIES TO THE PROCEEDING

The names of all parties in the court whose judgment is sought to be reviewed appear in the caption of this petition for writ of *certiorari*.

Petitioner, AccuScan, Inc. ("AccuScan"), has no parent company and no publicly held company owns 10% or more of its stock.

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IN THE
SUPREME COURT OF THE UNITED STATES

OCTOBER TERM, 2001

ACCUSCAN, INC., *Petitioner*,
v.
XEROX CORPORATION, *Respondent*.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Petitioner, AccuScan, Inc. ("AccuScan"), respectfully petitions for a writ of *certiorari* to review the judgment of the United States Court of Appeals for the Federal Circuit.

OPINIONS BELOW

The May 31, 2001 Opinion of the Court of Appeals for the Federal Circuit is unreported and is reproduced beginning at Appendix page 1a. The Opinion and Order of the United States District Court for the Southern District of New York dated March 14, 2000 is unreported and is reproduced beginning at Appendix page 21a. The Opinion and Order of the United States District Court for the Southern District of New York dated September 10, 1998 is unreported and is reproduced beginning at Appendix page 29a. The July 3, 2001 Order of the Court of Appeals for the Federal Circuit denying AccuScan's timely petition for rehearing and declining AccuScan's suggestion for rehearing *en banc* is not reported and is reproduced beginning at Appendix page 58a.

JURISDICTION

The judgment of the Court of Appeals for the Federal Circuit was entered on May 31, 2001. On July 3, 2001, the Federal Circuit denied AccuScan's timely petition for rehearing and declined AccuScan's suggestion for rehearing *en banc*. (App. 58a-59a). The jurisdiction of the Federal Circuit was invoked pursuant to 28 U.S.C. § 1295(a)(1). The jurisdiction of this Court is invoked pursuant to 28 U.S.C. § 1254(1).

CONSTITUTIONAL AND STATUTORY PROVISIONS INVOLVED

The Patent Clause of the United States Constitution grants Congress the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." U.S. CONST. art. I, § 8, cl. 8.

The Seventh Amendment to the Constitution provides:

> In Suits at common law, where the value in controversy shall exceed twenty dollars, the right of trial by jury shall be preserved, and no fact tried by a jury, shall be otherwise reexamined in any Court of the United States, than according to the rules of the common law.

U.S. CONST. amend. VII.

STATEMENT OF THE CASE

AccuScan has been involved in the development of a variety of data capture products, predominantly in the fields of facsimile transmission and non-impact computer page

printing. Among AccuScan's five patents is U.S. Patent No. 3,952,144 ("the Kolker patent"), which issued in 1976 and is the patent-at-issue in this proceeding. The Kolker patent relates to a scanning process for the calibration of electrical signals to most accurately and reliably capture the intensity of light reflections from a scanned source document (*e.g.*, document, photograph, line drawing, *etc.*) varying from pure white to deepest black, and all shades of gray therebetween ("grayscale"). Such images are scanned by facsimile machines, copiers and scanners. Respondent, Xerox Corporation ("Xerox"), manufactures and distributes a variety of office equipment, including copiers, scanners and facsimile machines.

In March 1989, AccuScan initiated a series of letter correspondences with Xerox regarding the Kolker patent. Following a protracted internal investigation into the matter, Xerox declined to consider several licensing offers by AccuScan to overcome potential infringement. AccuScan brought suit against Xerox in April 1996.

Following two jury trials in the United States District Court for the Southern District of New York—where each jury awarded damages to AccuScan for Xerox's infringement of Claims 1 and 17 of the Kolker patent—the Federal Circuit considered the case on appeal. The Appeals Court panel performed claim construction analysis on the Kolker patent, relying primarily on arguments made in an October 1975 correspondence by the patent applicant to the patent examiner to establish the patent application claims as non-obvious with respect to prior art. The arguments referenced by the panel in its non-precedential opinion were *not* claim amendments. This Court is currently considering whether claim amendments made for the purposes of patentability give rise to an absolute bar to the doctrine of equivalents. *See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*,

234 F.3d 558 (Fed. Cir. 2000), *cert. granted*, 121 S.Ct. 2519, 150 L.Ed.2d 692 (Jun. 18, 2001) (No. 00-1543).

Despite the absence of explicit claim amendment discussion, the Federal Circuit, upon completion of its claim construction analysis, invoked the law announced in *Festo* and summarily precluded any finding of infringement under the doctrine of equivalents. (App. 13a). Petitioner believes that, at a minimum, such an analysis does not comport with the requirements of *Festo* or other precedent. Further, this analysis will be substantially affected when this Court decides whether to reject the holding that patentability-related claim amendments made during prosecution of a patent application are an absolute bar to the doctrine of equivalents. Several notable parties have made arguments to this Court against the Federal Circuit's decision in *Festo*. The primary concerns voiced have addressed unfairness to current patent-holders (Brief of Amici Curiae American Intellectual Property Law Association at 7-9, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amici Curiae Association of Patent Law Firms at 2-3, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amici Curiae Chamber of Commerce of the United States at 3, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amici Curiae Federal Circuit Bar Association at 13-15, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692), the possibility that findings of non-infringement under *Festo* will constitute a deprivation of property rights, possibly in violation of the Fifth Amendment (Petition for Writ of *Certiorari* at 22-25, *Litton Sys. v. Honeywell Inc.*, 238 F.3d 1376 (Fed. Cir. 2001), *petition for cert. filed*, 69 U.S.L.W. 3702 (Apr. 23, 2001) (No. 00-1617); Brief of Amici Curiae Minnesota Mining & Manufacturing Company *et al.* at 13-14, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692), and the notion that both the domestic and the international innovation systems are irreparably harmed (Brief of Amici Curiae Federation Internationale Des Conseils en Propriete Industrielle at 11, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692;

Brief of Amici Curiae Intellectual Property Creators at 13-16, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amici Curiae Massachusetts Institute of Technology *et al.* at 9-18, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692).

The case below brings up an additional difficulty with implementing doctrine of equivalents analysis under the *Festo* requirements. Often, when a patent applicant submits a communication to the Patent Office, claim amendments will be accompanied by a section for remarks. Those remarks do not speak to the specific amendments *per se*. Some statements may address the amendments, and some may address other, non-amended, claim elements or other matters. The Appeals Court panel here, in interpreting one of the claim elements in the Kolker patent, determined that, in light of precisely these types of claim arguments, a circuit used by Xerox in one of its accused product lines did not infringe the claimed circuit of the Kolker patent because the Xerox circuit calculated the reciprocal of one value and then multiplied that reciprocal by a second value to obtain what the Kolker circuit accomplished in a single division operation.[1] (App. 9a-10a). Putting aside for the moment the merits of this claim construction, which Petitioner questions, the Federal Circuit's subsequent use of law announced in *Festo* to prevent application of the doctrine of equivalents (App. 13a) raises issues that considerably affect the boundaries of patent rights. This Court, in addressing these issues, can provide much-needed focus to the blurry outer limits of prosecution history estoppel and the discretion of the judiciary in exercising it.

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[1] Another Xerox product subtracted logarithmic values to obtain the same functional result—an output value that reflects the quotient of two input values. (App. 9a-10a). The Federal Circuit described this characterization of identicality as "mathematically correct." (App. 10a).

Further, the decision below deprives the Petitioner and future innovators of the right to a trial by jury through an unsupported assumption of judiciary discretion. Although this Court declared claim interpretation a question of law in *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996), the Federal Circuit overstepped these bounds, those of its own precedent, and the decisions of this Court when it forewent analysis of infringement under the doctrine of equivalents by relying solely on its analysis of literal infringement. (App. 13a). This prevented determination of infringement, an undisputed question of fact, from being decided by the jury.

1. *Prosecution History of AccuScan's Patent.* The Kolker patent was filed on October 2, 1974. Before the patent issued on April 20, 1976, the Patent Office rejected the claims as being obvious over prior art references under 35 U.S.C. § 103. In response to this rejection, the prosecuting attorney filed an Amendment to its application, with accompanying remarks. (App. 8a). Claims 1 and 17 are the relevant claims in this proceeding. (App. 5a-7a). In the Amendment, Claim 1 was affected by the single addition of the word "continually" and Claim 17 of the Kolker patent was *not* amended during prosecution.

The added word "continually," as found in the issued patent, is an adverbial modifier of the word "combining." The addition serves to denote the process of continuously combining the original image, represented as an input signal with a voltage value, and the initially scanned black and white images, represented as two input signals with outer-parameter-defining voltage values. Because the claimed circuit used the same voltage values for the black and white signals throughout the entire scanned document page, as opposed to recalibrating these values after scanning each line, this continuous combining of the voltage value for the

image's input signal with the voltage values for the black and white images distinguished the Kolker patent from prior art.

The patent applicant also made claim argument statements in the same correspondence with the Patent Office. The arguments cited by the Federal Circuit address the mathematical operations of the circuit in the Kolker patent, and the storage and holding of a voltage value in this circuit for a white sample. (App. 8a-13a). It is clear from the language of the arguments, cited by the Federal Circuit, that these non-amended elements of the Kolker patent are discrete from the element that was amended:

> It is clear that the ABC unit of the present invention is characterized by fully automatic acquisition of separate black and white samples of the video signal by the continual storage of the separate black and white samples throughout the subsequent scanning and transmission of a document, and by the continuous use during such period of the separately stored black and white samples to continuously correct the video signal received during the scanning of the document.

(App. 12a (emphasis in original)).

The Appeals Court panel illuminated the point by adding emphasis to the separate elements. First, there is "*continuous use*" of the information as represented by the voltage values. The amendment made to Claim 1, the addition of the word "continually," speaks to this element. Second, the values are "*separately stored.*" This element is wholly unique from the first element, the one that is addressed in the claim amendment. In fact, Claim 1 explicitly addressed the storage of these samples in elements A and B, whereas the amended language—the addition of the word "continually"—is found in element C. (App. 6a).

Thus, "continuous use" and "separate storage" of the voltage values are two inherently distinct elements, the former addressed by the amendment, but not the latter.

The Federal Circuit relied not upon the amended "continuous use" element, but upon the non-amended "separate storage" element, as well as another non-amended element (hereinafter called the "divide" element), in precluding a finding of literal infringement based on claim interpretation. (App. 9a-13a). No actual mention or quotation of the claim amendment itself appears in the panel's analysis. References made to the non-amended elements in the remarks accompanying the Amendment are clearly distinct from the amended element, evidenced by delineation of the non-amended "separate storage" element from the amended "continuous use" element within Claim 1 (elements B and C, respectively), and the fact that the non-amended "division" element is neither directly nor indirectly addressed by any of the amendments, much less the amendment made to Claim 1. At best, the statements upon which the Federal Circuit relied to find no literal infringement are claim arguments to the "separate storage" and "division" elements.

The "division" element used by the Federal Circuit to preclude a finding of literal infringement in two accused Xerox product lines was not the subject of any claim amendment. Based upon the Appeals Court panel's calculus, this element was also distinct from the "continuous use" and "separate storage" elements. Whereas the panel attempted to link the non-amended "separate storage" element to the amended element through discussion of "continuous storage and usage statements," (App. 12a), thereby imparting a type of *Festo*-like legitimacy that would later be used to estop the doctrine of equivalents, no such effort was made with respect to the non-amended "division" element.

In distinguishing the circuits in two accused Xerox product lines from the Kolker patent, the Federal Circuit isolated discussion of the "division" element from a sentence that explained to the patent examiner why a circuit that obtained a voltage value for a white sample *after every line* is different from the Kolker invention, which used the same voltage value for the white sample *throughout the scan of the entire document*. The central novelty of the invention was its elimination of a variable source of a white sample, which resulted in each line of a document having a slightly different voltage value for white. In other words, in the prior art, the color white varied, and that affected the document by making the background of some lines noticeably lighter than other lines. The Kolker invention corrected this problem by keeping the voltage value for white the same throughout the document.

Embedded in a single sentence, however, of the eleven-page Remarks section accompanying the Amendment, which spoke only to the background-correcting novelty of the Kolker invention, is a reference to the invention's "divide circuit." (App. 8a-9a). This reference is not separated from the invention's novelty, as it appears somewhere in the middle of a discussion of the substantive, background-deficient features of the prior art due to varying samples of white:

> It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, no divide circuit is utilized, the operation being merely that of setting the gain of the amplifier 24 and then using this fixed gain amplifier 24 as a multiplying or amplifying unit throughout the completion of the single line scan period.

The Appeals Court panel, in its analysis, placed particular emphasis upon the phrase "no divide circuit is

utilized" and held that this single mention of the word "divide" was enough to construe both Claim 1 and non-amended Claim 17 as requiring a circuit that operates by division (as opposed to multiplication by a reciprocal or subtraction of logarithmic values). (App. 9a-10a).

While the reasoning behind Petitioner's questioning of the panel's claim construction is evident, it is even more obvious that the "division" element was *not* amended during prosecution. The only mention of this element within the prosecution history is found in the above Appeals Court decision excerpt. (App. 9a). The reference did not place particular emphasis upon the element; in fact, prior and subsequent to the brief mention of the "divide circuit" in the same sentence are references to a white sample being "stored or utilized" not during the scanning of the entire document, as in the Kolker invention, but only "throughout the completion of the single line scan period." The "divide" element possessed limited, even incidental, treatment during prosecution history. This mid-sentence, out of context treatment formed the basis of the Federal Circuit's argument-based claim interpretation.

2. *The Proceedings Below.* AccuScan sued Xerox in the United States District Court for the Southern District of New York for infringement of the Kolker patent by four accused Xerox product lines. The jury found that Xerox did not establish that the Kolker patent was invalid, and that the four Xerox accused product lines literally infringed Claims 1 and 17 of the Kolker patent. (App. 29a-30a). The jury awarded AccuScan damages in the amount of $40 million to compensate AccuScan for Xerox's infringement of the Kolker patent. (App. 29a). The district court denied Xerox's motions for judgment as a matter of law on the issues of validity, infringement and damages, but ordered a new trial to reconsider the question of damages (App. 30a), and,

thereafter, also ordered a retrial of Xerox's "on sale" defense in light of an intervening change in law.

At the second trial, the jury found that AccuScan had provided Xerox with adequate notice of infringement and that the subject matter of the Kolker patent was not "on sale" more than one year before the patent's filing date. (App. 21a). The second jury awarded AccuScan damages in the amount of $9.7 million to compensate AccuScan for Xerox's infringement of the Kolker patent, to which the district court added $4.7 million in prejudgment interest and costs. (App. 21a, 28a). The district court denied Xerox's subsequent motions for judgment as a matter of law and a new trial. (App. 22a).

On appeal, the Court of Appeals for the Federal Circuit found that two of Xerox's accused product lines did not literally or equivalently infringe on the basis of the panel's claim interpretation of the Kolker patent's "divide" element. (App. 9a-10a, 13a). The Federal Circuit also found that the accused Xerox product lines did not literally or equivalently infringe on the basis of its claim interpretation of the Kolker patent's "separate storage" element. (App. 10a-13a). The Federal Circuit relied on its recent decision in *Festo* to bar application of the doctrine of equivalents following the finding of no literal infringement. (App. 13a).

The Federal Circuit, in its claim interpretation and subsequent summary determination of prosecution history estoppel, quoted four excerpts, all non-amending arguments, from Petitioner's correspondence with the Patent Office. (App. 8a-9a, 11a-12a). Petitioner asserts that the Federal Circuit misconstrued the claim terms, and believes that substantial evidence supports this conclusion. However, the subsequent summary application of this misconstruction to bar effectively any equivalents holds much broader significance for the rights associated with the more than 1.2

million patents currently active and future patents alike. Hence, arguments for this Court's consideration focus primarily upon the latter issue and touch the issue of erroneous claim construction as necessary for background.

The law in *Festo*, while controlling in the case below, does not encompass all of the issues brought forth by Petitioner. In particular, the application of *Festo* to estop the doctrine of equivalents in light of non-amending claim arguments represents a significant addition to the law, and raises other issues that both ramify from the arguments against *Festo* and are novel. Thus, Petitioner asks this Court to consider the case below as one that will not only be substantively affected by a reversal of *Festo*, but also as one that will significantly impact the body of law should *Festo* be affirmed.

REASONS FOR GRANTING THE WRIT

I. *Certiorari* Should Be Granted If This Court Reverses in *Festo*

The Appeals Court in the case below relied upon *Festo* to estop the doctrine of equivalents. Should this Court hold the law announced in *Festo* inviable, the decision below, as a further expansion of court discretion in invoking prosecution history estoppel, will be similarly affected. Petitioner asks this Court first to consider *certiorari* in light of its consideration of the *Festo* decision. The petitioner in *Festo* described the manner in which that decision conflicted with decisions of this Court. *See* Petition for Writ of *Certiorari* at 13-24, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; *see also*, Brief of Amici Curiae Massachusetts Institute of Technology *et al.*, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amici Curiae Minnesota Mining & Manufacturing Co. *et al.*, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amicus Curiae American Intellectual Property Law

Association, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amicus Curiae Association of Patent Law Firms, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amicus Curiae Chamber of Commerce of the United States, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amicus Curiae Federal Circuit Bar Association, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; Brief of Amicus Curiae Federation Internationale Des Conseils en Propriete Industrielle, *Festo*, 121 S.Ct. 2519, 150 L.Ed.2d 692; *Litton Sys. v. Honeywell Inc.*, 238 F.3d 1376 (Fed. Cir. 2001), *petition for cert. filed*, 69 U.S.L.W. 3702 (Apr. 23, 2001) (No. 00-1617).

II. *Certiorari* Should Be Granted Because The Decision Below Significantly Expands The Law Of *Festo* And Exacerbates Its Harms

The Federal Circuit Court Of Appeals in *Festo* observed that "[t]here is no reason why an amendment-based surrender of subject matter should be given less force than an argument-based surrender of subject matter." *Festo*, 234 F.3d at 568. The decision in *Festo*, as is well-known, then proceeds to give amendment-based surrender of subject matter considerably more force, thus tipping the scale in favor of amendments giving up more subject matter. No decision was made in this discussion as to whether arguments made during prosecution can also invoke a complete bar to the doctrine of equivalents. In fact, the Federal Circuit in *Festo* stated:

> If [claim elements] were not [amended during prosecution], amendment-based estoppel will not bar the application of the doctrine of equivalents. However, the court still may need to consider whether statements made during prosecution give rise to argument-based estoppel.

Id. at 586.

The Federal Circuit did not describe to what extent argument-based estoppel may bar the doctrine of equivalents, nor did it provide guidance as to how arguments should be considered in applying such a bar; it merely said that "the court still may need to consider" the possibility of argument-based estoppel. *Id.*

The concept that whatever subject matter is given up in the prosecution history for the purposes of claim interpretation and literal infringement is also relinquished under the doctrine of equivalents finds no support in the case law. The Federal Circuit has previously emphasized that there is "a clear distinction between following the statements in the prosecution history in defining a claim term, and the doctrine of prosecution history estoppel, which limits expansion of the protection under the doctrine of equivalents when a claim has been distinguished over relevant prior art." *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1578 (Fed. Cir. 1995). When a claim term is interpreted, the literal scope of a patent is defined and then compared to the accused infringing product. If there are differences between the two, the next step involves doctrine of equivalents analysis, a distinct determination.

The distinction between the use of prosecution history for interpreting claim terms and the use of prosecution history for determining whether equivalents are available lies in the difference between literal infringement and infringement under the doctrine of equivalents. Equivalents encompass a "zone around the literal terms" of a claim. *Festo*, 234 F.3d at 577 (describing the uncertainty associated with a flexible bar approach to prosecution history estoppel of an amended claim). Thus, in an examination of prosecution history to define the literal claim, it is possible to determine that an accused infringing product does not lie within the literal scope of the patent, but still may lie within

the "zone" surrounding the literal meaning, so long as equivalents have not been absolutely precluded. Such is the case with claim arguments. In the absence of explicit precedent, a determination independent of literal interpretation of claims must still be made to preclude the doctrine of equivalents when the relevant prosecution history is entirely argument-based.

In the case below, the Federal Circuit obfuscated this distinction, and thus found no infringement under the doctrine of equivalents solely on the basis for its finding of no literal infringement. In invoking prosecution history estoppel of the doctrine of equivalents, the only analysis provided by the Federal Circuit was, "For purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable surrender of the structure employed by Xerox." (App. 13a). This was the extent of the Federal Circuit's consideration of "whether statements made during prosecution give rise to argument-based estoppel." *Festo*, 234 F.3d at 586. No evidence is provided of "clear and unmistakable surrender" of the Xerox accused product lines. Instead, in the sentence immediately following this sparing analysis, the appellate panel declared, "Thus, none of the products in the four accused Xerox product lines may be held to infringe either of the asserted claims of the [Kolker] patent either literally or under the doctrine of equivalents." (App. 13a). Since the only other analysis preceding this conclusion of no infringement under the doctrine of equivalents dealt with claim interpretation, the only conclusion is that the Federal Circuit relied on its claim construction determination to estop the doctrine of equivalents. This action expands upon the calculus of *Festo* and should accordingly be acknowledged as a significant addition to the law.

Applying this addition to the current patent environment would cause a virtual upheaval of patent rights.

Federal Circuit Judge Michel wrote, in his *Festo* dissent, that "[t]he vast majority of patent applications contain claims that are initially rejected in view of the prior art, and are only allowed after being amended." *Festo*, 234 F.3d at 618 (Michel, J., dissenting). Federal Circuit Judge Lourie recommended that a future patent applicant "can stand his ground and appeal," and concluded that "[t]he fact that the applicant may have to appeal an unjustified rejection, incurring loss of time and expense, does not mean that we should refrain from adding clarity to the meaning of claims by holding patent applicants to their actions in the Patent and Trademark Office." *Id.* at 597. In the case where claim arguments automatically trigger prosecution history estoppel via claim interpretation, as in the decision below, Judge Lourie's proposal retains all the inconveniences of lost time and expense, and inflicts upon the patent applicant lost subject matter now associated only with patentability-related claim amendments. The Federal Circuit, by lowering the standard for claim arguments to estop equivalents, tips the controversial balance of *Festo* even further towards elimination of the doctrine of equivalents.

This Court, in the event that *Festo* is affirmed, would still need to address the important issue of claim arguments brought up in the case below. The landscape for the doctrine of equivalents would be much more clear with this Court's explicit guidelines for treatment of the following in prosecution history estoppel determinations: (1) arguments made entirely independent of amendments; (2) arguments directly related to accompanying amendments; and (3) arguments not directly related to accompanying amendments.

The easiest guidelines to implement would have all of the above categories of arguments treated in the same manner as claim amendments. In this case, the courts would not need to make a determination of whether a given argument is related to an amendment. The only determination would be

whether the argument was made for reasons related to patentability; if so, then all equivalents would be estopped. The severe dilemma with this solution, however, is that this would result in patent applicants being prohibitively reluctant to make any communications whatsoever with the Patent Office. Patent applications would become a one-shot proposition, where anything short of an acceptance of the initial application would run the risk of estopping the doctrine of equivalents.

Yet, any set of guidelines different from the categorical classification of all arguments as subject to complete prosecution history estoppel will require a carefully considered analysis of how claim amendments and claim arguments interact, and whether it is feasible to separate the two. The court below treated them functionally the same. In doing so, however, it expanded the dictates of *Festo* with reasoning that, if applied broadly, would eliminate equivalents wherever claim arguments and no literal infringement were found. Since equivalents are moot whenever there is literal infringement, they would no longer serve any real purpose in the protection of patents. This Court should determine whether and to what extent claim arguments affect prosecution history estoppel of the doctrine of equivalents.

III. *Certiorari* Should Be Granted Because The Decision Below Eradicates Seventh Amendment Guarantees

In effect, by failing to acknowledge the distinction between the analysis underlying literal infringement and that underlying the doctrine of equivalents, the Federal Circuit has mooted the question of whether to allow the jury to consider infringement by equivalents in the absence of literal infringement. Using the Federal Circuit's mode of analysis, future courts may disregard the doctrine of equivalents

altogether when claim construction informed by patentability-related prosecution history precludes a finding of literal infringement. Under the decision below, this would hold true regardless of whether the prosecution history deals with claim amendments or claim arguments. After examining the prosecution history and finding no literal infringement as a matter of law, a court may then summarily conclude that, since there is "clear and unmistakable surrender of the structure employed by the [accused infringer]," (App. 13a), there is thus also no infringement under the doctrine of equivalents. The effect on future patent litigation will be an unconstitutional deprivation of the right to a jury trial.

The Seventh Amendment to the Constitution states that "the right to trial by jury shall be preserved" in suits at common law, such as those dealing with patent infringement. The tradition of trying before a jury patent cases dealing with infringement reaches back to the founding of this country. *See, e.g.*, *Markman*, 517 U.S. at 377 ("there is no dispute that infringement cases today must be tried to a jury, as their predecessors were more than two centuries ago."). The *en banc* Federal Circuit decision in *Hilton Davis Chemical Co. v. Warner-Jenkinson Co., Inc.*, 62 F.3d 1512 (Fed. Cir. 1995) (*en banc*), *rev'd*, 520 U.S. 17 (1997), held that the "Supreme Court's cases on the doctrine of equivalents foreclose a holding that the doctrine is a matter of equity to be applied at the court's discretion." *Id.* at 1521. Numerous decisions by the Federal Circuit have consistently stated that the determination of patent infringement, whether legal or under the doctrine of equivalents, is a question of fact. *See, e.g.*, *Lockheed Martin Corp. v. Space Systems/Loral, Inc.*, 249 F.3d 1314, 1323 (Fed. Cir. 2001); *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1339 (Fed. Cir. 2001); *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353 (Fed. Cir. 1998); *Insituform Techs., Inc. v. Cat Contracting, Inc.*, 161 F.3d 688, 692 (Fed. Cir. 1998).

On the other side of the issue is the belief that the doctrine of equivalents is equitable in the sense that it should be entirely decided by judges. This is a supplementary issue raised in the *Festo* concurrence written by Federal Circuit Judge Plager, who was also a member of the panel that heard the case below:

> A better solution would be to declare the doctrine of equivalents—a judge-made rule in the first place—to have its roots firmly in equity, and to acknowledge that when and in what circumstances it applies is a question of equitable law, a question for which judges bear responsibility.

Festo, 234 F.3d at 593 (Plager, J., concurring).

With the case at bar, the Federal Circuit has adopted a wholesale approach to Judge Plager's "better solution" without having to pay the retail price; that is, announcing the decision as precedential and subjecting the patent environment to a controlling evisceration of patent holders' Seventh Amendment right to a jury trial. Inconsistency in the broader body of law has been exchanged for inequity to the Petitioner. In the opinion below, the panel issued a nonprecedential opinion against AccuScan by relying on argument-based claim constructions, overturning two independent jury findings in the District Court with a conclusory sentence, followed by a citation to *Festo*:

> For purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable surrender of the structure employed by Xerox. *Festo Corp. v. Shoketsu Kinzoku Kabushiki Co. Ltd.*, 234 F.3d 558, 564, 56 USPQ2d 1865, 1869 (Fed. Cir. 2000).

(App. 13a).

The appellate panel did not perform any further analysis, and followed this sentence immediately with the declaration that, "Thus, none of the products in the four accused Xerox product lines may be held to infringe either of the asserted claims of the [Kolker] patent either literally or under the doctrine of equivalents." (App. 13a). The pattern that would be followed by future courts, as this decision appears to add significantly to the body of law that requires discrete analysis of claim arguments for the purpose of infringement by equivalents, would be to perform a claim interpretation on any given element that was discussed in the record during prosecution and invoke *Festo* to estop the doctrine of equivalents. This Court should decide the Seventh Amendment issue here, for if it does not, courts below will likely continue to apply this reasoning as a valid interpretation of existing law.

This Court should resolve the issue of whether the determination of infringement under the doctrine of equivalents is firmly rooted in equity or a question of fact for a jury to decide. In that vein, it would no longer be necessary to selectively withhold Seventh Amendment privileges for the sake of invoking judicial control over the doctrine of equivalents.

The decision of the Appeals Court is not defensible for want of fact-based questions that a reasonable jury could decide. Nor is it defensible on the basis that no evidence supporting infringement existed to justify the summary assertion of argument-based prosecution history estoppel. The appellate panel's claim construction based on arguments made in the prosecution history are effectively an absolute bar of the doctrine of equivalents as to that claim. In estopping the doctrine of equivalents, the Federal Circuit considered the "division" and the "separate storage" elements, and cited its *Festo* decision to summarily estop the

doctrine of equivalents in light of only claim interpretation analysis. (App. 13a).

Examples of the questions of fact that should have been brought before a jury were, "Under the doctrine of equivalents, is a circuit that divides X by Y and then multiplies the resulting value by a constant the same as a circuit that divides a constant by Y and then multiplies the resulting value by X?" and "Under the doctrine of equivalents, is the storage of a constant value in a circuit for the purpose of correcting background variation equivalent to storage of that value when another constant is subtracted from it?" Instead, the Federal Circuit made no effort in its opinion even to consider bringing disputed questions of fact following claim construction back to the jury. The panel simply estopped the doctrine of equivalents based upon its decision in *Festo*. (App. 13a).

The Federal Circuit's analysis may be used by future courts to expand significantly prosecution history estoppel and preclude jury findings of infringement, as in the case at bar. This Court can address this problem either through vacating the law announced in *Festo*, which would affect the judgment below, or by simultaneously determining both the amendment-based estoppel issues of *Festo* and the argument-based estoppel issues below.

CONCLUSION

Based upon the reasons explicated above, the petition for a writ of *certiorari* should be granted and the judgment below reversed.

Respectfully submitted,

September 26, 2001

By: _____

JOHN F. SWEENEY
Counsel of Record
KENNETH S. WEITZMAN
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, New York 10154
(212) 758-4800

Attorneys for Petitioner,
AccuScan, Inc.

Appendix A

APPENDIX A — OPINION OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DATED AND DECIDED MAY 31, 2001

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

00-1316, -1320, -1406

ACCUSCAN, INC.,

Plaintiff-Cross Appellant,

v.

XEROX CORPORATION,

Defendant-Appellant.

DECIDED: May 31, 2001

Before CLEVENGER, *Circuit Judge*, PLAGER, *Senior Circuit Judge*, SCHALL, *Circuit Judge*.

CLEVENGER, *Circuit Judge*.

Xerox Corporation ("Xerox") appeals the post-verdict judgment of the United States District Court for the Southern District of New York upholding a jury verdict of patent infringement in favor of AccuScan, Inc. ("AccuScan"). The patent at issue in this appeal is U.S. Patent No. 3,952,144 ("the '144 patent"). Xerox also appeals the denial of its motion for judgment as a matter of law ("JMOL") of patent invalidity based upon anticipation and the on-sale bar

pursuant to 35 U.S.C. § 102(b). Xerox additionally appeals the denial of its JMOL motion contesting the jury finding that AccuScan provided sufficient notice of infringement with regard to certain Xerox products, as well as the denial of Xerox's motion for a new trial pursuant to Fed. R. Civ. P. 60(b)(3).

On cross-appeal, AccuScan challenges the district court's denial of AccuScan's motion for JMOL requesting reversal of the jury's finding that Xerox did not willfully infringe. AccuScan also contests the district court's grant of a new trial on the issue of damages.

We conclude that issues of claim construction and prosecution history estoppel preclude a finding of infringement in this case. We therefore *reverse* the district court's denial of JMOL of noninfringement. Because the issue of patent invalidity was raised as a counterclaim in this case, we must also address the validity rulings regarding anticipation and the on-sale bar. *Cardinal Chem. Co. v. Morton Int'l, Inc.*, 508 U.S. 83, 93-94 (1993); *Gen. Elec. Co. v. Nintendo Co., Ltd.*, 179 F.3d 1350, 1356, 50 USPQ2d 1910, 1914-15 (Fed. Cir. 1999). We *affirm* the district court's denial of JMOL of invalidity.

Our holdings moot the appeals regarding notice and the denial of a new trial, and also moot the cross-appeals regarding willfulness and the grant of a new trial regarding damages.

I

The '144 patent, entitled "Methods and Apparatus for Automatic Background and Contrast Control," is directed

towards a circuit for performing contrast calibration for a scanned document. A document is typically scanned by repeatedly sweeping a light beam across it, while a photosensor senses the light reflected off the document and generates an electrical signal representing the amount of reflected light. Variations in this input signal indicate the black and white contrast within the document. However, undesirable variations in this signal may also be caused by factors such as the age of the equipment and temperature changes.

The '144 patent discloses a calibration circuit, referred to as an "ABC" circuit, that automatically corrects the input signal. The ABC circuit first scans a calibration strip on the relevant document, which contains known black and white samples, and stores the values of these samples as reference values for the entire document. The first reference value, taken from a black sample, is designated V_b, and the second reference value, taken from a white sample, is designated V_w. During subsequent scanning and transmission of the document, the ABC circuit receives a video input signal V_{IN} representing the shade of intensity of darkness or lightness of the document area then being scanned. The ABC circuit calibrates the video input signal V_{IN} using V_b and V_w to produce a corrected output signal V_O, according to the equation (hereinafter, the "Kolker equation"):

$$V_O = (V_{IN} - V_b) / (V_w - V_b)$$

'144 patent, col. 4, line 63 – col. 5, line 2.

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II

A jury verdict found that four of Xerox's product lines infringed the '144 patent: 1) the DocuTech publishing system, 2) the 5775 color copier, 3) the SA4 scanner, and 4) the 7017/20/21 facsimile machines. The district court denied Xerox's subsequent request for JMOL of noninfringement for all four product lines. The denial of a motion for JMOL following a jury verdict is reviewed by reapplying the district court's standard of review. *Tec Air, Inc. v. Denso Mfg. Mich., Inc.*, 192 F.3d 1353, 1357, 52 USPQ2d 1294, 1296 (Fed. Cir. 1999). A district court may overturn a jury's verdict only if, upon the record before the jury, reasonable jurors could not have reached that verdict. *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893, 221 USPQ 669, 673 (Fed. Cir. 1984).

On appeal, Xerox argues that when the asserted claims are properly construed as informed by the prosecution history, none of Xerox's products infringe, either literally or under the doctrine of equivalents. We review issues of law without deference, including issues of claim construction. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979, 34 USPQ2d 1321, 1329 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996). Whether prosecution history estoppel applies to preclude a patentee from regaining, through litigation, coverage of subject matter relinquished during prosecution, is also a question of law. *Wang Labs. Inc. v. Mitsubishi Elecs. Am., Inc.*, 103 F.3d 1571, 1577-78, 41 USPQ2d 1263, 1269 (Fed. Cir. 1997).

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In construing the claims, we begin first by reviewing the intrinsic evidence, which consists of the claims, the written description, and the prosecution history. *DeMarini Sports, Inc. v. Worth, Inc.*, 239 F.3d 1314, 1323, 57 USPQ2d 1889, 1893 (Fed. Cir. 2001); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582, 39 USPQ2d 1573, 1576-77 (Fed. Cir. 1996). Arguments and amendments made during the prosecution of the '144 patent limit the interpretation of the claim terms so as to exclude any interpretation that was disclaimed during prosecution. *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576, 34 USPQ2d 1673, 1676-77 (Fed. Cir. 1995); *ZMI Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1580, 6 USPQ2d 1557, 1561 (Fed. Cir. 1988).

Only claims 1 and 17 of the '144 patent are at issue in this litigation. Claim 1 is an apparatus claim that uses means-plus-function language:

> 1. Apparatus for processing a variable magnitude input signal representative of an input parameter which varies between predetermined first and second magnitudes, said apparatus comprising:
>
> A. means for storing a first sample of said input signal when said input parameter is at its first magnitude;
>
> B. means for storing a second sample of said input signal when said input parameter is at its second magnitude;

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C. and means, operable during a reception period in which said input signal is representing varying magnitudes of said input parameter, for *continually combining said input signal and said first and second samples* to continually *produce an output signal representative of the difference in magnitude of said input signal and said first sample divided by the difference in magnitude of said first and second samples*, whereby said output signal is normalized so as to represent the magnitude of said input parameter as a fraction of the range established by the difference in magnitude of said first and second samples.

'144 patent, col. 18, line 58 – col. 19, line 11 (emphases added to illustrate contested portions).

Claim 17 is a method claim:

17. A method for operating upon a variable magnitude signal representing a parameter which varies in magnitude over a range between a predetermined low magnitude and a predetermined high magnitude, said variable amplitude signal being subject to undesired offsets and gain variations in its representation of said parameter, said method comprising the steps of:

1. storing a first sample of said variable magnitude signal when said input parameter

is at its low magnitude and producing a first signal representative of said stored first sample;

2. storing a second sample of said variable magnitude signal when said input parameter is at its high magnitude and producing a second signal representative of said stored second sample;

3. thereafter during a period in which said received input signals is [sic] representing the variable magnitude parameter, *continually combining said input signal and said first signal to produce a first output signal* having a magnitude representative of the difference in magnitude of said input signal and said first signal;

4. *combining said first signal and said second signal to produce a second output signal* having a magnitude representative of the difference in magnitude of said first and second storage samples;

5. and combining said first and second output signals to *produce a third output signal representative of the quotient of their magnitudes.*

'144 patent, col. 22, lines 11-39 (emphases added to illustrate contested portions).

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Xerox argues that statements made in the prosecution history to distinguish U.S. Patent No. 3,761,610 ("the Krallinger reference") limit the claims of the '144 patent in several ways. First, Xerox argues that AccuScan disclaimed the use of anything other than a "divide circuit" for the function claimed in claim 1 as: "produc[ing] an output signal representative of the difference in magnitude of said input signal and said first sample *divided by* the difference in magnitude of said first and second samples" (emphasis added). '144 patent, col. 19, lines 3-7. The portion of claim 17 corresponding to this "divide" function states: "produc[ing] a third output signal representative of the *quotient* of their magnitudes." '144 patent, col. 22, lines 29-32 (emphasis added).

The Examiner originally rejected all of the claims of the application that matured into the '144 patent pursuant to 35 U.S.C. § 103 as obvious over the Krallinger reference in view of U.S. Patent No. 2,909,597 ("the Johnson reference"). The prosecuting attorney replied to this rejection with remarks directed towards contrasting the invention of the '144 patent with the Krallinger and Johnson references. Because these remarks are not limited to any particular claim of the '144 patent, they are presumed to apply to all of the claims.

In distinguishing the '144 patent from the Krallinger reference, the prosecuting attorney stated:

> In the further operation of the Krallinger, et al. device, during the scanning of the line the input video signal, background corrected by the black signal stored in capacitor 20, is ***multiplied***

> [emphasis in original] by the temporarily fixed gain of the amplifier 24 throughout the remainder of the line so as to yield a background and gain compensated signal. It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, *no divide circuit is utilized* . . . (emphasis added).

The ABC circuit as disclosed in the '144 patent uses a "divide circuit 141" which "operates to divide the numerator signal by the denominator signal to continually produce a corresponding fully correct and gain controlled or normalized video output signal V_o." '144 patent, col. 13, lines 18-21. Based upon the above statements in the prosecution history, AccuScan explicitly disclaimed coverage of any device performing the mathematical calculation yielding V_o by something other than a divide circuit. This disclaimer applies equally to the "divided by" language of claim 1 and the "quotient" language of claim 17. A quotient is a number resulting from the division of one number by another, and the clause of claim 17 which contains the "quotient" language clearly refers to the mathematical function resulting in the "third output signal" corresponding to V_o.

It is uncontested that the accused DocuTech publishing system performs the mathematical calculation yielding V_o by multiplying by a reciprocal instead of using a divide circuit. Furthermore, it is uncontested that the 5775 copier performs this calculation by subtracting logarithmic values. AccuScan argues that a signal representative of a division or a signal representative of a quotient may be obtained by multiplication of a reciprocal — as is done in Xerox's

DocuTech system — or by subtracting logarithmic values — as is done in Xerox's 5775 copier. Certainly, this is mathematically correct. Under different circumstances, it would be entirely possible to determine that a divide function could encompass multiplication by a reciprocal or logarithmic subtraction, either literally or under the doctrine of equivalents. In the present case, however, AccuScan explicitly disclaimed such an interpretation during prosecution. Therefore, there can be no infringement of either claim 1 or claim 17 with respect to either the DocuTech publishing system or the 5775 copier.

However, the record with regard to the SA-4 scanner and the 7117/20/21 facsimile machines is not as clear. Both of these machines utilize digital circuits, as opposed to the analog ABC circuit of the '144 patent. The evidence and testimony presented regarding these two products is simply not sufficient for this court to determine whether or not the SA-4 scanner and the 7117/20/21 facsimile machines "divide" to obtain V_0 or perform some other mathematical function. Thus, we consider a second aspect of the claim construction.

Xerox also argues that its four products cannot infringe under a correct claim construction because AccuScan specifically argued during prosecution that the claims did not cover circuits that do not store and hold a white sample during the entire scan of the document, and do not continually combine the input signal with the black and white samples during the entire scan of the document. The prosecuting attorney characterized the invention of the '144 patent as performing the following:

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> In response to the second sampling signal, the ABC unit stores in the input capacitor of a second operational amplifier a second sample of the video input signal corresponding to the white shade or value of the calibration strip being scanned. Thus, at the completion of the calibration scan separate black and white representing samples of the input video signal are held stored in the input capacitors of their respective operational amplifiers, which produce corresponding output voltage signals V_b and V_w representative of the voltage magnitudes of the black and white samples.

The prosecuting attorney distinguished the Krallinger reference from the invention of the '144 patent by describing Krallinger in the following manner:

> The immediately following white signal is not sampled or stored but instead, because of its appearance immediately following the black signal, is used in a servo operation to vary the gain of the controllable amplifier so that the amplified white signal is equal to a preset reference voltage V_r. This amplification or gain level once obtained, is held throughout the complete line by the cumulative charge stored in an error capacitor 52 which represents the cumulative level of the error signals produced in the slewing operations of the gain control servo of the amplifier. Capacitor 52 is a storage element but it does not store a sample of the white signal, and, moreover, a sample of the white

> signal is not stored at any place or position in the Krallinger, et al. circuit.

Thus, during prosecution of the '144 patent, AccuScan repeatedly emphasized the importance of storing a sample of the white signal. Furthermore, AccuScan distinguished the '144 patent over other devices which did not store a sample of the white signal. Although Krallinger does use the white sample signal to create a related value which is then stored, the prosecution history makes it clear that such a mathematically related value is not equivalent to the '144 patent's storage of a separate white sample signal.

The prosecution history of the '144 patent also makes it clear that a distinguishing feature of the '144 patent is the continual storage and continuous use of the separately stored black and white samples throughout the scanning of an entire document. Such continuous storage and usage statements were made repeatedly by the prosecuting attorney, including:

> It is clear that the ABC unit of the present invention is characterized by fully automatic acquisition of separate black and white samples of the video signal by the *continual storage* of the separate black and white samples *throughout* the subsequent scanning and transmission of a document, and by the *continuous use* during such period of the *separately stored* black and white samples to *continuously* correct the video signal received during the scanning of the document. (emphasis added).

When interpreted in light of these statements, both claim 1 and claim 17 require continuous "storing" of the V_w value in its pure form, and continuous "combining" of this value throughout the scanning of the document.

The diagrams of the operation of the Xerox devices created by AccuScan make it clear that the four different Xerox product lines at issue only temporarily store the white sample V_w in its pure form. These four illustrative diagrams all show that V_w is stored only temporarily before being converted to the difference value (V_w - V_b). There is no dispute that this is a correct characterization of the accused Xerox products. Because V_w in its pure form is stored only temporarily, it cannot be used continuously as required by the '144 patent claims as interpreted in light of the prosecution history.

For purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable surrender of the structure employed by Xerox. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 234 F.3d 558, 564, 56 USPQ2d 1865, 1869 (Fed. Cir. 2000); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1173, 26 USPQ2d 1018, 1024-25 (Fed. Cir. 1993). Thus, none of the products in the four accused Xerox product lines may be held to infringe either of the asserted claims of the '144 patent either literally or under the doctrine of equivalents.

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III

Xerox counterclaimed that the '144 patent was invalid pursuant to 35 U.S.C. § 102(b) under two different theories: anticipation and the on-sale bar. We address each of these theories in turn.

A

Xerox alleges that the '144 patent is anticipated by an IBM Technical Disclosure Bulletin by D.P. Swart entitled "Contrast Amplifier," Vol. 14, No. 3 (August 1971) 883-84 ("the IBM reference"). In order to anticipate a claim, a prior art reference must disclose every element of the claimed invention. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1346, 51 USPQ2d 1943, 1945 (Fed. Cir. 1999). Anticipation is a factual question, and a jury verdict regarding anticipation is reviewed after trial for substantial evidence. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 544, 48 USPQ2d 1321, 1328 (Fed. Cir. 1998). At trial, the jury in this case ruled that the '144 patent was not anticipated by the IBM reference, and the district court held that substantial evidence supported this jury verdict. We agree.

The IBM reference discloses a contrast amplifier circuit, which operates using the principle:

$$(V_w - V_S) / (V_w - V_b)$$

This equation differs from the "Kolker equation" as used in the '144 patent in that the black sample V_b is not used as the first sample. In order to show that the IBM reference is

anticipatory, Xerox must show that the district court's claim construction for the '144 patent requiring the first sample stored to be the black sample is erroneous. The relevant portion of claim 1 states:

> A. *means for storing a first sample* of said input signal when said input parameter is at its first magnitude;
>
> B. *means for storing a second sample* of said input signal when said input parameter is at its second magnitude;

'144 patent, col. 18, lines 62-66.

Xerox concedes that the preferred embodiment disclosed in the '144 patent specification stores black as the first sample V_b and white as the second sample V_w, but relies upon the rule that the claims are not limited to the disclosed embodiments. *See Tate Access Floors, Inc. v. Maxcess Techs., Inc.*, 222 F.3d 958, 966, 55 USPQ2d 1513, 1518 (Fed. Cir. 2000). However, this analysis ignores the means-plus-function aspect of these two phrases. Claims that invoke a means-plus-function analysis under 35 U.S.C. § 112, ¶ 6 are held to only encompass "all structure in the specification corresponding to that element and equivalent structures." *Micro Chem., Inc. v. Great Plains Chem. Co. Inc.*, 194 F.3d 1250, 1258, 52 USPQ2d 1258, 1263 (Fed. Cir. 1999).

Claim 1 recites "means for storing a first sample" (clause A) and "means for storing a second sample" (clause B). This language clearly invokes a means-plus-function analysis.

Xerox argues that the means-plus-function analysis applies only to the "means for storing" language and does not relate to the "first sample" and "second sample" language of claim 1. It is true that "[s]ection 112, ¶ 6 does not limit all terms in a means-plus-function . . . clause to what is disclosed in the written description. . . ." *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1432, 54 USPQ2d 1129, 1135 (Fed. Cir. 2000). However, in the present case, it is not possible to distinguish between the "means for storing" embodiments in the written description of the '144 patent without considering either the first or second sample language as an integral part of these phrases.

The prosecution history also limits the '144 patent to storing a black sample first and a white sample second. The prosecuting attorney described the invention of the '144 patent as operating to:

> produce a first sampling signal when the ramp voltage reaches a predetermined magnitude corresponding to the scanning of the black area of the calibration strip and produces a second sampling signal when the ramp voltage reaches a second predetermined magnitude corresponding to the scanning of the white area of the calibration strip.

The prosecution history also explicitly describes the invention of the '144 patent as operating using the Kolker equation. Thus, during prosecution AccuScan surrendered coverage of a circuit operating in a manner different from the Kolker equation. For this reason, claim 17 is also limited to the Kolker equation and is not anticipated by the IBM reference.

Every embodiment and example disclosed in the patent, as well as the prosecution history, involves storing a black sample first and a white sample second, and the district court correctly construed the claims to cover only this scenario. Thus, the '144 claims cover only the Kolker equation disclosed in the '144 patent, which clearly differs from the equation disclosed in the IBM reference. Xerox advances no other argument (including any argument based upon equivalency of structure) aside from claim construction to refute the jury verdict. Substantial evidence supports the jury's verdict that the IBM reference does not anticipate the '144 patent.

B

Xerox also argues that the '144 patent is invalid because the invention was allegedly offered for sale by AccuScan more than one year prior to the date of application for the '144 patent. 35 U.S.C. § 102(b) (1994). Under *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 66-68 (1998), the old "substantially complete" standard for determining whether the on-sale bar has been triggered has been streamlined and modernized to a two-prong test: 1) whether the patented invention was the subject of a commercial offer for sale, and 2) whether the patented invention was "ready for patenting" prior to the critical date. Although the ultimate determination of invalidity due to application of the on-sale bar is a question of law, the facts underlying satisfaction of both of these conditions are issues of fact. *Monon Corp. v. Stoughton Trailers, Inc.*, 239 F.3d 1253, 1257, 57 USPQ2d 1699, 1702-03 (Fed. Cir. 2001).

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Due to the intervening change in the law under *Pfaff* regarding the on-sale bar, the issue of whether the invention of the '144 patent was on sale prior to the critical date was tried to the jury on two separate occasions, and in both trials the jury ruled that the '144 patent was not invalidated by the on-sale bar. The district court twice upheld the jury verdict as supported by substantial evidence. However, the district court's first opinion upheld the jury verdict under the rationale that because the sale at issue was entitled a "Research and Development Contract," it did not qualify as a real sale. *AccuScan, Inc. v. Xerox Corp.*, 96 Civ. 2579 at 6-7 (S.D.N.Y. Sept. 11, 1998). *Zacharin v. United States*, 213 F.3d 1366, 1370, 55 USPQ2d 1047, 1050 (Fed. Cir. 2000), states: "[t]he fact that the sale in question was made in the context of a research and development contract and that there was no fixed price set for the [products] does not suffice to avoid the on-sale bar." Therefore, the district court's ruling on this point was legally incorrect. The district court's second ruling on the on-sale bar issue again affirmed the jury verdict as supported by ample evidence, but did not explain this ruling by pointing out the evidence which was relied upon. *AccuScan, Inc., v. Xerox Corp.*, 96 Civ. 2579 at 3 (S.D.N.Y. Mar. 15, 2000). Thus, for clarity we will briefly outline the points of evidentiary contention.

The application which matured into the '144 patent was filed on October 2, 1974, with Ray Kolker being the sole named inventor. Testimony from Mr. Kolker validated a detailed schematic of the ABC circuit dated February 28, 1972, as "the electrical schematic of my invention." Thus, the evidence supports a finding that the invention of the '144 patent was "ready for patenting" prior to the critical date.

The second part of the on-sale test is the occurrence of a commercial offer for sale, which is the critical prong of the test in the present case. AccuScan submitted a proposal to the California Crime Technological Research Foundation ("CCTRF") in January 1973, which appears to qualify as an offer for sale. However, at trial, AccuScan presented evidence suggesting that the subject matter contained in the CCTRF proposal was not the Kolker ABC circuit invention of the '144 patent, but rather was an alternative design developed by Xerox witness Robert LaFond. The subject matter of the commercial offer for sale must "be something within the scope of the claims," and therefore the use of this alternative design would indicate that the invention of the '144 patent was not part of the CCTRF offer for sale. *Scaltech Inc. v. Retec*, 178 F.3d 1378, 1383, 51 USPQ2d 1055, 1058 (Fed. Cir. 1999).

Xerox disputes that any alternative design from Mr. LaFond ever existed, and presented testimony to that effect. Overall, the testimony presented at trial is conflicting. The CCTRF proposal lists Mr. LaFond and Mr. Dobrin (VP of Phonapix, the predecessor to AccuScan) as responsible for the program, but makes no mention of Mr. Kolker. Mr. LaFond testified that the CCTRF proposal did contain the Kolker ABC circuit of the '144 patent. However, Mr. LaFond also admitted that the CCTRF proposal schematic attachment did not contain a block diagram labeled "ABC circuit." Mr. Dobrin said that Mr. LaFond did have an alternative circuit, but Mr. Dobrin did not know many details about what went into the Phonapix Fax machines that were the subject of the CCTRF proposal. Mr. Kolker testified that the CCTRF proposal "absolutely does not" describe his invention of the '144 patent.

Credibility determinations and the weighing of evidence are jury functions. *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). Although there was some conflicting evidence presented, the jury *twice* found that the weight of the evidence favored AccuScan. On appeal, we find that substantial evidence exists to support the jury's verdict. Therefore, the '144 patent has not been shown to be invalid pursuant to the on-sale bar.

V

The district court's denial of Xerox's motion for JMOL of noninfringement is reversed. The district court's denial of Xerox's motion for JMOL of invalidity pursuant to 35 U.S.C. § 102(b) is affirmed. Our ruling regarding noninfringement renders the additional issues in the case moot.

COSTS

No costs.

Appendix B

APPENDIX B – OPINION AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK DATED MARCH 14, 2000 AND FILED MARCH 15, 2000

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

96 Civ. 2579 (HB)

ACCUSCAN, INC.,

Plaintiff,

– against –

XEROX CORP.,

Defendant.

OPINION AND ORDER

Hon. Harold Baer, Jr., District Judge:

The jury rendered a verdict in this patent case on October 25, 1999 in favor of plaintiff AccuScan, Inc. ("AccuScan") for $9,716,379 after a second trial devoted to damages, and the issues of notice and the "on sale" bar. Xerox now moves pursuant to Rule 50(b) for judgment as a matter of law or, alternatively, requests a new trial pursuant to Rule 59. AccuScan moves pursuant to Rule 50(b) for the entry of prejudgment interest, and also seeks the taxation of costs against the defendant.

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For the reasons stated below, Xerox's motion for judgment as a matter of law or for a new trial is DENIED. Further, AccuScan is awarded prejudgment interest in the amount of $4,689,544.16, and is awarded costs in the amount of $45,874.83. The facts of this action are set out at length in my prior decisions and familiarity is assumed.

DISCUSSION

I. XEROX'S MOTION FOR JUDGMENT AS A MATTER OF LAW OR, ALTERNATIVELY, FOR A NEW TRIAL

Pursuant to Fed. R. Civ. P. 50(b), a court should only grant a motion for judgment as a matter of law when: (1) there is "such a complete absence of evidence supporting the verdict that the jury's findings could only have resulted from sheer surmise and conjecture," or (2) there is such an "overwhelming amount of evidence in favor of the movant that reasonable and fair minded" people could not have reached a verdict against moving party. *Samuels v. Air Transport Local 504*, 992 F.2d 12, 14 (2d Cir. 1993) (internal citations omitted). The Court "must consider all the evidence in a light most favorable to the non-mover, must draw reasonable inferences favorable to the non-mover, and must not substitute its choice for that of the jury between conflicting elements in the evidence." *Ortho Diagnostic Systems, Inc. v. Miles Inc.*, 865 F. Supp. 1073, 1078 (S.D.N.Y. 1994), *appeal dismissed*, 48 F.3d 1237 (Fed. Cir. 1995). Federal Rule of Civil Procedure 59 governs the decision whether to grant a new trial, a decision which is "committed to the sound discretion of the trial judge."

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Metromedia Co. v. Fugazy, 983 F.2d 350, 363 (2d Cir. 1992), *cert. denied*, 508 U.S. 952 (1993). The power of a district court to grant a new trial based on the weight of the evidence is limited to instances where the jury's verdict can be seen as "seriously erroneous," *Piesco v. Koch*, 12 F.3d 332, 344 (2d Cir. 1993), or the verdict "is a miscarriage of justice." *Purnell v. Lord*, 952 F.2d 679, 686 (2d Cir. 1992) (citation omitted).

Xerox claims that it is entitled to judgment as a matter of law on the issues of actual notice, damages, and the patent's invalidity (the "on sale" bar). It argues that no reasonable jury could have concluded that AccuScan provided actual notice of infringement with regard to the SA4 scanner, 5775 color copier, and DocuTech system; that no reasonable jury could have concluded that AccuScan was entitled to damages based on the entire market value rule; and that no reasonable jury could have concluded that the patented invention was valid, because it was "on sale" one year prior to the actual date of filing the patent application and that the patent was ready for patenting. Further, Xerox seeks a new trial on the ground that this Court abused its discretion in limiting certain testimony at trial.

A judgment as a matter of law for the defendant in this case would be a miscarriage of justice. There is ample evidence to support the jury's verdict, and the test, i.e. that there be an "overwhelming amount of evidence" in favor of Xerox, was just not met. The jury was presented with evidence by both sides on each issue and, in my humble opinion, did precisely what is was supposed to do. It weighed the evidence and assessed the credibility, and Xerox came

up short. Therefore, Xerox's motion for judgment as a matter of law is denied.

In addition, Xerox's Rule 59 motion is misguided. The excluded testimony was the subject of a motion *in limine*, and was addressed at length before and during trial. Xerox has presented nothing new in its post-trial motion to convince me that ruling was "seriously erroneous" and resulted in a "miscarriage of justice." Because a party cannot use Rule 59 as way of rearguing claims raised at trial, *see Sassower v. Field*, 973 F.2d 75, 81 (2d Cir. 1992) (affirming denial of motion for new trial where motion was mere reargument of claims made at trial), *cert. denied*, 507 U.S. 1043 (1993), Xerox's motion for a new trial is denied.

II. PREJUDGMENT INTEREST

AccuScan moves this Court to modify the judgment entered to reflect an award of prejudgment interest. While Xerox agrees that AccuScan is entitled to prejudgment interest, the parties dispute the rate at which interest is to be awarded. AccuScan seeks prejudgment interest to be awarded based on the prime rate, compounded quarterly, which yields a total of $7,373,979.00.[1] In contrast, Xerox claims that prejudgment interest should be based on the 52-week Treasury Bill rate, compounded annually, which yields a total of $4,689,544.16.

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1. In its motion for prejudgment interest, Accuscan's memorandum states that it seeks a total amount of $7,379,979.00, yet its proposed order states a total amount of $7,381,567.00.

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An award of prejudgment interest aims to place the patent owner "in as good a position as [it] would have been in had the infringer entered into a reasonable royalty agreement." *General Motors Corp. v. Devex Corp.*, 461 U.S. 648, 655-56 (1983). The determination of the rate at which prejudgment interest is awarded is left to the sound discretion of the trial court. *See Laitrim Corp. v. NEC Corp.*, 115 F.3d 947, 955 (Fed. Cir. 1997); *Gyromat Corp. v. Champion Spark Plug Corp.*, 735 F.2d 549, 556 (Fed. Cir. 1984) (court has "substantial discretion" to determine the interest rate).

Here, a review of the record establishes that prejudgment interest awarded at the 52-week Treasury Bill rate, compounded annually, will adequately compensate AccuScan. This is the same rate set forth for awards of post-judgment interest, *see* 28 U.S.C. § 1961, and has often been employed by the Federal Circuit and other courts in awarding prejudgment interest in patent cases. *See, e.g., Laitrim Corp.*, 115 F.3d at 955 (prejudgment interest at Treasury bill rate, compounded annually); *Datascope Corp. v. SMEC, Inc.*, 879 F.2d 820, 829 (Fed. Cir. 1989) (affirmed interest awarded at rate set forth in § 1961); *Intex Plastic Sales Co. v. Hall*, 20 USPQ2d 1367, 1371 (N.D. Cal. 1991) (interest awarded at rate set forth in § 1961, where applying higher rate was " 'too speculative"), *aff'd*, 960 F.2d 155 (Fed. Cir. 1992); *Polaroid Corp. v. Eastman Kodak Co.*, 16 USPQ2d 1481, 1541 (D. Mass. 1990) (interest awarded at Treasury Bill rate, compounded annually, where evidence failed to justify higher rate). AccuScan's arguments fail to convince me that the prime rate should be utilized, nor does the evidence warrant the application of that rate. Accordingly, prejudgment interest is awarded to AccuScan based on the 52-week Treasury Bill rate, compounded annually, in the amount of $4,689,544.16.

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III. TAXATION OF COSTS

The Judgment Clerk for the Southern District of New York awarded costs to AccuScan in the amount of $45,874.83 on December 10, 1999. Xerox objects to the taxation of costs for certain deposition transcripts and related witness fees, and seeks a reduction in costs of $10,704.37.[2] According to Xerox, these costs were not reasonably and necessarily incurred by AccuScan in presenting its case at trial, and should therefore be stricken.

The decision on taxation of costs is left solely to the discretion of the trial judge. *LoSacco v. City of Middletown*, 71 F.3d 88, 92 (2d Cir. 1995) (citing *Farmer v. Arabian Oil Co.*, 379 U.S. 227, 232-233 (1964)). The prevailing party has the burden of establishing that the taxation of costs is justified. *John and Kathryn G v. Board of Educ. of Mount Vernon Public Schools*, 891 F. Supp. 122, 123 (S.D.N.Y. 1995). With respect to deposition transcripts, Local Rule 54.1(c)(2) reads in pertinent part:

> Unless otherwise ordered by the court, the original transcript of a deposition, plus one copy, is taxable if the deposition was used or received in evidence at the trial, whether or not it was read in its entirety. Costs for depositions are also taxable if they were used by the court in ruling on a motion for summary judgment or other dispositive substantive motion.

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2. Specifically, these depositions were: Leonard Zuckerman, Peter Miller, David Haas, Charles Jacobson, Roy Lahr, Robert Yerman, Carl Kolker, George Stamps, and Robert Krallinger.

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Xerox argues that several of the deposition transcripts taxed were never "used" at trial by AccuScan in presenting its case, but were used solely by the parties for impeachment purposes or merely referred to during questioning. Further, Xerox objects to certain other transcripts taxed, which were cited by Xerox in its Statement of Undisputed Facts as part of its summary judgment motion, but which were not cited by this Court in its order denying summary judgment.

In this Circuit, a deposition transcript may be taxed when it appears to be reasonably necessary to the parties at the time taken. *See DeHoust v. Baxter Healthcare Corp.*, 1999 WL 280423 (S.D.N.Y. 1999) (costs of transcripts allowed because depositions appeared to be reasonably necessary at time taken); *United States Football League v. National Football League*, 704 F. Supp. 474, 487 (S.D.N.Y. 1989). Here, AccuScan has established that the depositions taxed were used for purposes of impeachment at trial and for use with other witnesses who testified. Therefore, these depositions were "reasonably necessary" to AccuScan, and costs for those transcripts were properly taxed. Finally, depositions are considered "used" if they were submitted as part of a summary judgment motion and considered by the Court in reaching its decision, even if they are not cited by the Court. *See Walther v. Maricopa Int'l Inv. Corp.*, 1999 WL 816176, *2 (S.D.N.Y. 1999). Therefore, costs taxed for deposition transcripts utilized in the motion for summary judgment were also properly taxed. Accordingly, AccuScan is entitled to the full amount of $45,874.83 taxed as costs.

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CONCLUSION

For the foregoing reasons, Xerox's motion for judgment as a matter of law or, alternatively, for a new trial is DENIED. AccuScan is awarded prejudgment interest in the amount of $4,689,544.16, and is further awarded costs in the amount of $45,874.83. The Clerk of the Court is instructed to close this case.

SO ORDERED.

New York, New York
March 14, 2000

s/ Harold Baer, Jr.
U.S.D.J.

Appendix C

APPENDIX C — OPINION AND ORDER OF THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF NEW YORK DATED SEPTEMBER 10, 1998 AND FILED SEPTEMBER 11, 1998

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK

96 Civ. 2579 (HB)

ACCUSCAN, INC.,

Plaintiff,

– against –

XEROX CORP.,

Defendant.

OPINION AND ORDER

Hon. Harold Baer, Jr., District Judge:

Following a trial in this patent infringement action, the jury rendered a verdict on April 1, 1998, in favor of plaintiff AccuScan, Inc. ("AccuScan") for $40 million. The jury concluded: (1) that several products of defendant Xerox Corporation ("Xerox"), specifically, the Docutech, the 5775 color copier, the SA4 Scanner and the 7017/7020/7021 facsimile machines, infringed claims 1 and 17 of U.S. Patent No. 3,952,144 ("the '144 patent"); and (2) that the '144 patent

was valid.[1] The jury also concluded that Xerox had not willfully infringed the '144 patent.

Xerox now moves, pursuant to Fed. R. Civ. P. 50(b) for judgment as a matter of law that none of the accused Xerox products infringe the '144 patent and that the asserted claims are invalid, or, in the alternative, for a new trial under Fed. R. Civ. P. 50(c) and 59. Xerox also moves for judgment as a matter of law under Rule 50(b) with respect to the jury's $40 million damages award, and requests a new trial on damages pursuant to Rules 50(c) and 59. AccuScan moves pursuant to Rule 50(b) for entry of judgment as a matter of law that Xerox's infringement of the '144 patent was willful. For the reasons set forth below, Xerox's motion for judgment of non-infringement or invalidity or for a new trial on the issue of liability is DENIED, Xerox's motion for a new trial on the issue of damages is GRANTED and AccuScan's motion for entry of a judgment of willfulness is DENIED.

BACKGROUND

In this action, AccuScan accused Xerox's products of infringing claims 1 and 17 of its '144 patent. AccuScan was started as a small company in about 1971, which was then known as Phonapix. Peter Heller, the President of AccuScan, was one of the original investors in AccuScan. (Tr. 278). The '144 patent relates to the calibration of electric signals in products like facsimile machines, scanners and digital

1. The jury also rendered an advisory verdict with respect to Xerox's defense of laches; by Order and Opinion dated May 26, 1998 I found, in accord with the jury's advisory verdict, that Xerox had failed to establish its defense of laches.

copiers. It issued on April 20, 1976, listing Carl Kolker as the sole inventor. Kolker was hired by AccuScan in about July of 1971, but is no longer employed by AccuScan. (Tr. 57). Kolker's invention allows the accurate reproduction of grey scale images, *i.e.*, images that not only contain black and white information, such as the alphanumeric information that might appear in a letter, but also images that have continuous shades from black to white, such as might be found in a photograph. The '144 patent describes a device and method for adjusting an input signal to correct for undesired variations.

The specific system described in the '144 patent consists of circuitry, which makes a preliminary calibrating scan of a black area and a white area, and stores the signal corresponding to the black area (V_b) and the signal corresponding to the white area (V_w). When the document is scanned, the circuitry subtracts the value V_b from the input signal (V_{in}) to remove any offset values, and divides this difference by the difference between the two signals V_w and V_b to ensure that the output signal V_o varies between 0 and 1. The result is defined by the following equation, $V_o=(V_{in}-V_b)/(V_w-V_b)$.

DISCUSSION

I. *Legal Standard for Judgment as a Matter of Law*

Federal Rule of Civil Procedure 50(a) provides:

> If during a trial by jury a party has been fully heard on an issue and there is no legally sufficient

> evidentiary basis for a reasonable jury to find for that party on that issue, the court may determine the issue against that party and may grant a motion for judgment as a matter of law against that party with respect to a claim or defense that cannot under the controlling law be maintained or defeated without a favorable finding on that issue.

In deciding whether judgment as a matter of law is warranted, the question is "whether the evidence is such that, without weighing the credibility of witnesses or otherwise considering the weight of the evidence, there can be but one conclusion as to the verdict that reasonable [people] could have reached." *Mallis v. Bankers Trust Co.*, 717 F.2d 683, 688 (2d Cir. 1983) (quoting *Mattivi v. South African Marine Corp., Huguenot*, 618 F.2d 163, 167 (2d Cir. 1980)). The trial court should grant judgment as a matter of law only when: (1) there is such a complete absence of evidence supporting the verdict that the jury's findings could only have been the result of sheer surmise and conjecture, or (2) there is such an overwhelming amount of evidence in favor of the movant that reasonable and fair minded people could not arrive at a verdict against the movant. *See Lambert v. Genesee Hosp.*, 10 F.3d 46, 56 (2d Cir. 1993), *cert. denied*, 511 U.S. 1052 (1994). On a motion for judgment as a matter of law, the trial court must "consider all the evidence in a light most favorable to the non-mover, must draw reasonable inferences favorable to the non-mover, must not determine credibility of witnesses, and must not substitute its choice for that of the jury between conflicting elements in the evidence." *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 893 (Fed. Cir.), *cert. denied*, 469 U.S. 857 (1984).

Appendix C

II. *Infringement*

In deciding whether an accused device infringes a patent, the scope of the patent claims, which is strictly a legal issue, must be determined. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384-91 (1996). Once the Court construes the claims of the patents, which here was done in large measure with the assistance of an independent expert chosen by the parties, the issue of infringement is a factual issue for the jury. *SRI Int'l v. Matsushita Elec. Corp. of America*, 775 F.2d 1107, 1125 (Fed. Cir. 1985) (*in banc*). A patent can be infringed in two ways — literally or under the doctrine of equivalents. Literal infringement requires that each feature of the patent claim is found in the accused device. *See Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1563 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 1818 (1997). Infringement under the doctrine of equivalents can be found only if the accused device contains elements identical or equivalent to each claimed element of the patented invention. *See id.* at 1566.

Xerox argues that a reasonable jury could not have concluded that the Docutech, the 5775 color copier, the SA4 Scanner and the 7017/7020/7021 facsimile machines infringe claims 1 and 17 of AccuScan's patent literally or under the doctrine of equivalents. Upon consideration of Xerox's arguments, I disagree. There was competent evidence in the record as testified to by AccuScan's expert Leonard Zuckerman ("Zuckerman") that Xerox's Docutech contains each element of claims 1 and 17 of the '144 patent or the equivalent, as construed by this Court. (Tr. 128-141). Zuckerman also testified that Xerox's 5775 copier,

SA4 scanner and 7017/20/21 facsimile machines each contain every element of claims 1 and 17 of the '144 patent or the equivalent. (Tr. 148-163, 172-183, 163-174). Moreover, Xerox's in-house attorney stated, in an internal memorandum that, in reviewing the '144 patent, claims 1 and 17, among others, "appear to potentially read on applications of the invention to digital systems, similar to those found in document scanners and current facsimile products." (PTX 152). Although Xerox's expert testified that the accused products do not infringe claims 1 and 17 of the '144 patent as construed by this Court (Tr. 624, 633-665), it is the jury's province to weigh this conflicting evidence. Viewing all the evidence in the light most favorable to AccuScan and drawing reasonable inferences favorable to AccuScan, as I must in the context of this motion, I find that there was substantial evidence to support the jury's verdict on the issue of infringement.

III. *Validity*

A. On Sale Bar

Xerox also challenges the jury's finding that the '144 patent is not invalid under the "on sale" bar of 35 U.S.C. § 102(b). Because patents are presumed to be valid, Xerox has the burden of proving that the '144 patent is invalid by clear and convincing evidence. *Buildex Inc. v. Kason Industries, Inc.*, 849 F.2d 1461, 1463 (Fed. Cir. 1988). Section 102(b) provides that an inventor is not entitled to a patent if "the invention was . . . on sale in this country, more than one year prior to the date of the application for patent in the United States," which is known as the critical date. In

order for an invention to be "on sale" within the meaning of § 102(b), there must be a definite sale or offer for sale of the claimed invention prior to the critical date. *Pfaff v. Wells Electronics, Inc.*, 124 F.3d 1429, 1433 (Fed. Cir. 1997), *cert. granted*, 118 S. Ct. 1183 (1998). Although the issue of whether an invention is "on sale" within the meaning of § 102(b) is ultimately a question of law, this issue involves underlying questions of fact. *See Pfaff*, 124 F.3d at 1432; *Manville Sales Corp. v. Paramount Systems, Inc.*, 917 F.2d 544, 549 (Fed. Cir. 1990).

Here, the '144 patent was filed on October 2, 1974 and thus activities before October 2, 1973 can give rise to an on sale bar. Xerox argues that two events prior to this date constituted placing the patented invention "on sale." First, Xerox points to AccuScan's response to a request for proposal by the California Crime Technology Research Foundation ("CCTRF") in January 1973. Second, Xerox argues that AccuScan offered to sell the patented technology at a meeting that was held in August 1973 between AccuScan and Xerox. AccuScan contends that a reasonable jury could have found that the invention was not placed "on sale" within the meaning of section 102(b) in either instance because AccuScan was merely engaging in developmental and testing activities. *See Continental Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1269-70 (Fed. Cir. 1991) (on sale bar does not arise where an inventor is merely engaging in developmental and testing activities, even where intended customer was participating in development and testing); *see also Great Northern Corp. v. Davis Core & Pad Co., Inc.*, 782 F.2d 159, 165 (Fed. Cir. 1986); *Poole v. Mossinghoff*, 214 U.S.P.Q. 506, 508-09 (D.D.C. 1982).

Appendix C

Upon a review of the evidence, I find that a reasonable jury could have found that Xerox failed to meet its burden of proving by clear and convincing evidence that the patented invention was placed "on sale" prior to the critical date. First, the '144 patent was never sold at any time. (Tr. 757, 770). Moreover, with respect to the CCTRF proposal, in January 1973, AccuScan (then known as Phonapix) responded to a request for proposal by CCTRF, which sought a system that would transmit fingerprints. The proposal for this project indicated that it was a "developmental program." (DTX GT at A001831). Indeed, the project was described in the proposal as "Develop and Test Prototype Systems For Improved Method of Fingerprint Transmission." (DTX GT at A001835). Although Xerox's witness, Robert LaFond, a former Phonapix employee, testified that the purpose of the CCTRF proposal was to solicit business and that the Kolker invention was working at this time (Tr. 755-56), it is the jury's role to make credibility determinations and weigh conflicting evidence, in concert with the high burden of proof required to prove invalidity.[2]

Similarly, on April 16, 1973, AccuScan (then known as Faxon) contacted Xerox by letter regarding its new product developments. This letter states that the project was an "R & D effort." (DTX HI). The parties then held meetings on August 2, 1973 and August 16, 1973. At the August 16 meeting, Faxon representatives demonstrated a breadboard of its 811 facsimile machine, which included the Kolker

2. Moreover, there was some question as to whether the Kolker invention was even involved in the CCTRF proposal since the prospectus did not identify Kolker as one of the individuals involved in the project. (*See* DTX GT).

circuit. The report of Xerox witness Charles Jacobson dated August 20, 1973, indicated that the model viewed "was at a relatively early stage of development, certainly no farther advanced than an engineering model" and according to plaintiff, it was hardly saleable. (DTX JZ; *see also* Tr. 464-65). Moreover, a memorandum prepared by Faxon representative John Ransom indicated that one of Faxon's objectives was to obtain "[a]dequate funding to bring the 811 to the point of product announcement." (DTX H). Similarly, Kolker testified that the purpose of the meetings with Xerox was to have Xerox enter into a research and developmental program with Faxon. He further testified that AccuScan did not offer to sell products to Xerox, as there was "nothing to sell." (Tr. 79, 83-84, 103). Although prices were discussed between Xerox and AccuScan, the "on sale" bar does not arise simply because prices and quantities were discussed. *Continental Can*, 948 F.2d at 1270. Accordingly, there was substantial evidence to support the jury's finding that the patent was not invalid under the "on sale" bar.[3]

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3. Xerox argues that although the 811 machine may have been in the developmental stages in August 1973, the Kolker circuit had already been shown to work for its intended purpose at this time, and thus the experimental use exception to the on-sale bar does not apply. *See RCA Corp. v. Data General Corp.*, 887 F.2d 1056, 1061 (Fed. Cir. 1989) (an offer to sell A, a device reduced to practice, in combination with B, the combination not having been reduced to practice is not an experimental use of A). However, there was evidence in the record (*See* Tr. 80-81, 95-96) from which a jury could conclude that the Kolker circuit was not yet reduced to practice, *i.e.*, it had not yet been satisfactorily tested to show that it would actually work for its intended purpose. *See Scott v. Finney*, 34 F.3d 1058, 1060-62 (Fed. Cir. 1994).

Appendix C

B. Anticipation and Obviousness

Xerox also challenges the jury's finding that the '144 patent is not invalid as anticipated by the prior art or as obvious. Under 35 U.S.C. § 102(e), an inventor cannot obtain a patent if "the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for the patent." Anticipation must be proven by clear and convincing evidence establishing that the subject matter of the claim is identically described in a single prior art reference. *See Gechter v. Davidson*, 116 F.3d 1454, 1457 (Fed. Cir. 1997). Pursuant to 35 U.S.C. § 103, a patent claim that is not anticipated by the prior art may nevertheless be invalid if the invention set forth in the claim would have been obvious to a person of ordinary skill in the art at the time of invention. *See Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1574 (Fed. Cir. 1986). Although obviousness is ultimately a question of law for the court, based on the factual underpinnings, a court may submit the ultimate legal question of obviousness to the jury, with proper instructions. *In re Hayes Microcomputer Prods., Inc. Patent Litig.*, 982 F.2d 1527, 1539 (Fed. Cir. 1992).

Xerox argues that four prior art references — the IBM Technical Disclosure Bulletin (the "IBM Bulletin") and U.S. Patents Nos. 3,800,078 (" '078 patent"), 3,800,079 (" '079 patent") and 3,962,681 (" '681 patent") — contain all of the features recited in claims 1 and 17 of the '144 patent. Alternatively, Xerox contends that claims 1 and 17 are obvious over the prior art. However, I find that a reasonable jury could have found that Xerox failed to meet its burden

to prove by clear and convincing evidence that the '144 was invalid as anticipated or obvious. At trial, Zuckerman testified that the IBM Bulletin differs from claims 1 and 17 of the '144 patent in that the references are not fixed before the input signal is processed.[4] (Tr. 862-63). In addition, Xerox's expert Ralph Grant ("Grant") testified at his deposition, which was read into evidence at trial, that these claims are valid in light of the IBM Bulletin.[5] (Tr. 693-94). Zuckerman also testified that the '144 patent is not obvious in light of the IBM Bulletin. (Tr. 860).

With respect to the '078 patent, Zuckerman testified that it differs from the '144 patent because in the '078 patent, there is no fixed white reference, but rather the white background area can vary. He also testified that there is nothing in the '078 patent that renders the '144 patent obvious. (Tr. 864). Further, Zuckerman testified that the '079 patent does not use the equation found in the Kolker patent and that it does not render the '144 patent obvious. (Tr. 865-866). Moreover, Grant testified at his deposition, which was

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4. Xerox challenges the significance of this difference; however, under 35 U.S.C. § 102, "every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim." *Gechter*, 116 F.3d at 1457. Moreover, the IBM Bulletin also differs from the '144 patent because the white and black samples are reversed; in the '144 patent, pursuant to this Court's claim construction, the first sample is black, whereas in the IBM Bulletin the first sample is white.

5. Although Grant changed his testimony at trial (as well as later in his deposition) and testified that the IBM Bulletin renders the patent invalid (Tr. 693-95), it is the jury's role to make credibility determinations and weigh the conflicting evidence.

read into evidence at trial, that neither the '078, the '079 or the '681 patent invalidate claims 1 and 17 of the '144 patent.[6] (Tr. 690-692).

Zuckerman also testified that all of the prior art references together do not make the '144 patent obvious to a person skilled in the art. (Tr. 862, 876). This testimony was corroborated by that of Grant, who testified at deposition that none of the above prior art references make obvious the claims of the '144 patent. (Tr. 692). The verdict of non-obviousness is also supported by the commercial success of the infringing products. (Tr. 860); *See Cable Elec. Prods., Inc. v. Genmark, Inc.*, 770 F.2d 1015, 1026 (Fed. Cir. 1985) (secondary considerations relevant to determining obviousness include commercial success of infringing products). Accordingly, I find there was substantial evidence from which a reasonable jury could conclude that Xerox failed to meet its burden to prove by clear and convincing evidence that the '144 patent was invalid as anticipated by the prior art references or as obvious.

IV. *Motion for a New Trial on Liability*

A district court may grant a new trial only where the jury reached, "a seriously erroneous result" or where the verdict is a "miscarriage of justice." *Sorlucco v. New York City Police Dept.*, 971 F.2d 864, 875 (2d Cir. 1992). Because, as discussed above, I find that the jury's verdict of infringement and validity is supported by substantial

6. Grant's testimony in this regard again changed at trial (Tr. 690), but, as discussed above, it is in the jury's province to weigh conflicting testimony.

evidence, I decline to exercise this discretion here with respect to the issue of liability.[7]

V. *Damages*

A. Adequacy of AccuScan's Proof

Where, as here, infringement has been shown, the law provides that the owner of the patent is entitled to "damages adequate to compensate for the infringement, but in no event less than a reasonable royalty for the use made of the invention by the infringer." 35 U.S.C. § 284. The royalty must be based on an established royalty, if there is one. If not, the royalty should be based upon the supposed result of a hypothetical negotiation between the plaintiff and the defendant. *Rite-Hite Corp. v. Kelley Co., Inc.*, 56 F.3d 1538, 1554 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995). This hypothetical negotiation requires the fact-finder to "envision the terms of a licensing agreement reached as the result of a supposed meeting between the patentee and the infringer at the time infringement began." *Id.* For purposes of the hypothetical negotiation, the patent in suit is presumed valid and infringed. *Mobil Oil Corp. v. Amoco Chems. Corp.*, 915 F. Supp. 1333, 1352-53 (D. Del. 1994). Here, the parties agreed, and the jury was instructed that the time of the

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7. Xerox argues that a new trial is warranted based on my ruling at trial to exclude from evidence an opinion written by a previous AccuScan attorney, Marcus Millet. (DTX AKT). I adhere to my prior determination that this memorandum was inadmissible hearsay. Moreover, even assuming this determination was erroneous, I am unable to conclude that the exclusion of this memorandum constituted prejudicial error such that a new trial is warranted.

hypothetical negotiation was September 1986, just before infringement began. In determining the royalty that would have been reached at this hypothetical negotiation, the factfinder is to consider a variety of evidentiary factors, which were set forth in detail in *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116 (S.D.N.Y. 1970), *modified on other grounds*, 446 F.2d 295 (2d Cir.), *cert. denied*, 404 U.S. 870 (1971). The jury was charged that they should consider these factors in determining a reasonable royalty rate.[8]

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8. These factors are as follows: 1) the royalties received by the patentee for the licensing of the patent to others; 2) rates paid to license other patents comparable to the patent in suit; 3) the nature and scope of the license, as exclusive or nonexclusive, or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold; 4) the licensor's established policy and marketing program to maintain its patent's exclusivity by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that exclusivity; 5) the commercial relationship between licensor and licensee, such as whether they are competitors, in the same territory, in the same line of business, or whether they are inventor and promoter; 6) the effect of selling the patented product in promoting sales of other products of the licensee, the existing value of the invention to the licensor as a generator of sales of its non-patented items, and the extent of such derivative or collateral sales; 7) the duration of the patent and the term of the license; 8) the established profitability of the product made under the patent, its commercial success, and its current popularity; 9) the utility and advantages of the patented invention over the old modes or devices, if any, that had been used for working out similar results; 10) the nature of the patented invention, the character of the commercial embodiment of it as owned and produced by the licensor, and the benefits to those who

(Cont'd)

Appendix C

Xerox argues that if the correct legal standard is applied, the record is devoid of any relevant evidence to support the jury's damage award of $40 million. I agree. AccuScan's damages expert, Dr. Marion Stewart, testified that a reasonable royalty here would be 12.5%; applying this rate to Xerox's revenues for the infringing products for the period April 11, 1990 through April 20, 1993, he calculated that AccuScan's damages from infringement were $203,296,018.[9] (Tr. 370-71). In reaching this conclusion, he applied the following methodology. First, he examined the revenues that Xerox had received from the Docutech system from its introduction in late 1990 through 1997 and its projected

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(Cont'd)
have used the invention; 11) the extent to which the infringer has made use of the invention, and any evidence probative of the value of that use; 12) the portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions; 13) the portion of the realizable profit that should be credited to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer; 14) the opinion testimony of qualified experts; and 15) the amount that a licensor and a licensee would have agreed upon if both had reasonably and voluntarily been trying to reach an agreement. *Georgia-Pacific Corp.*, 318 F. Supp. at 1120.

9. The jury was instructed that the patent damages should be calculated from April 11, 1990 — six years preceding the filing of the complaint in this action — to the expiration of the patent, April 20, 1993. Dr. Stewart also testified that AccuScan's damages from October 1990 (the date previously determined by this Court to be when Xerox received actual notice of infringement, as discus- below) through April 1993 were $198,853,590 (Tr. 369).

future revenues and calculated that if Xerox had delayed the introduction of the Docutech until the expiration of the '144 patent, April 20, 1993, this delay would have cost Xerox $413 million. (Tr. 360-62). He then divided the $413 million by the actual revenues for the Docutech from late 1990 through the expiration of the '144 patent, $500 million, and calculated that the maximum royalty rate Xerox would have paid was 83%. (Tr. 359-69, 364-65). He further testified that 83% would not be a reasonable royalty because of the numerous additional features that are contained in the Docutech; he thus reduced this figure and arrived at a royalty rate of 12.5%. (Tr. 366-369).

There are several flaws in Dr. Stewart's analysis which render his damages estimate unsupportable under the existing law. First, Dr. Stewart did not employ the well-established analysis set forth in *Georgia-Pacific*. The case of *Georgia-Pacific* sets forth a comprehensive list of evidentiary factors relevant to the determination of a reasonable royalty, which have long been followed by other courts. *See, e.g., Unisplay, S.A. v. American Electronic Sign Co., Inc.*, 69 F.3d 512, 517 n. 7 (Fed. Cir. 1995); *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1077 (Fed. Cir. 1983); *Gargoyles, Inc. v. United States*, 37 Fed. Cl. 95 (Fed. Cl. 1997), *aff'd*, 113 F.3d 1572 (Fed. Cir. 1997). Of course, some of these factors may be of minimal or no relevance to a particular case, and other factors may have to be molded to fit the facts of the case at hand. *See Mobil Oil Corp.*, 915 F. Supp. at 1353. Moreover, the calculation of a reasonable royalty depends on the facts of each case. *Mahurkar v. C.R. Bard, Inc.*, 79 F.3d 1572, 1579 (Fed. Cir. 1996). Nevertheless, Dr. Stewart's analysis was based almost exclusively on the actual revenues that

Xerox received from the Docutech product. While a royalty analysis need not mirror the *Georgia-Pacific* factors in every case, there is no support for Dr. Stewart's complete abandonment of this well-established methodology. Indeed, AccuScan fails to cite a single case approving of the methodology employed by Dr. Stewart.

Moreover, Dr. Stewart's analysis ignored, for the most part, the necessity to return to the date of infringement, here, September 1986. It is well established that in calculating a reasonable royalty, the hypothetical negotiation must take place on the date infringement began. *Unisplay*, 69 F.3d at 518; *Wang Laboratories, Inc. v. Toshiba Corp.*, 993 F.2d 858, 870 (Fed. Cir. 1993). A reasonable royalty must "relate to the time infringement occurred, and not be an after-the-fact assessment." *Unisplay*, 69 F.3d at 518. As AccuScan points out, in determining a reasonable royalty based on a hypothetical negotiation, a trier of fact may nevertheless look at "events and facts that occurred thereafter and that could not have been known to or predicted by the hypothesized negotiators." *Fromson v. Western Litho Plate and Supply Co.*, 853 F.2d 1568, 1575 (Fed. Cir. 1988). As the Federal Circuit has explained, future events may be considered because where years have gone by after the issuance of the patent, "[e]xperience is then available to correct uncertain prophecy." However, "to correct uncertain prophecies in such circumstances is not to charge the offender with elements of value non-existent at the time of his offense. It is to bring out and expose to light the elements of value that were there from the beginning." *Fromson*, 853 F.2d at 1575 (quoting *Sinclair Ref. Co. v. Jenkins Petroleum Process Co.*, 289 U.S. 689, 698-99 (1933)). While future events may therefore be

considered, the analysis must, at the very least, be anchored with facts that existed at the time of infringement. *Alpex Computer Corp. v. Nintendo Co., Ltd.*, 34 U.S.P.Q.2d 1167, 1994 WL 681752, at *40 (S.D.N.Y. Dec. 5, 1994), *aff'd in part, rev'd in part on other grounds*, 102 F.3d 1214 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 2480 (1997).

Dr. Stewart's analysis failed to do so. His analysis neglected to incorporate most of the relevant facts that existed at the time of infringement. For example, he did not incorporate the fact that Xerox's facsimile sales were unprofitable at the time of the hypothetical negotiation and that the only infringing product that was marketed by Xerox in 1986 was the 7020 facsimile machine, nor did he incorporate the fact that in 1977, AccuScan had offered a $10,000 paid-in-full, non-exclusive license under the '144 patent (Tr. 392-96, 802-803). He also failed to account for the evidence that Xerox had already developed alternative grey-scale technology in 1986. (Tr. at 551-552). Instead, Dr. Stewart focused on Xerox's actual profits from the Docutech, from 1990 forward. In order to demonstrate that he nevertheless complied with the requirement of returning to the date of infringement for the hypothetical negotiation, Dr. Stewart explained that he assumed that the parties would have known in 1986 of the importance of the Docutech product. However, this product was not even introduced until 1990, four years later. There is therefore no basis for Dr. Stewart's sweeping assumption. AccuScan points to evidence that Xerox had begun working on the Docutech in 1983, and that in 1986, there was an oblique reference to the Docutech system in Xerox's 1986 annual statement. (Tr. 347-351; PTX 181). The fact that the parties would have known of

the planned future existence of the Docutech in 1986 does not mean that the hypothetical negotiators would have fully known its importance and future profitability.[10]

An additional flaw in AccuScan's model is that it also runs afoul of the "entire market value rule." This rule "allows for the recovery of damages based on the value of an entire apparatus including non-patented parts, even though only one of the features in the apparatus is patented." *King Instrument Corp. v. Otari Corp.*, 767 F.2d 853, 865 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1016 (1986). Such recovery is permitted only "when the patented feature is the basis for customer demand for the entire machine." *Fonar Corp. v.*

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10. At best, the evidence AccuScan points to may support the admissibility of the Docutech profits as one factor to be considered in arriving at a reasonable royalty. With respect to an infringer's actual profits, courts have stated that evidence of future events such as the infringer's actual profits can be admissible in determining a reasonable royalty. *See Fromson*, 853 F.2d at 1576; *Trans-World Manuf'g Corp. v. Al Nyman & Sons, Inc.*, 750 F.2d 1552, 1568 (Fed. Cir. 1984) (infringer's profits can be admissible as probative of one of the *Georgia-Pacific* factors, the infringer's anticipated profits, including the effect of the patent in promoting the success of other products of the infringer); *Alpex Computer Corp.*, 1994 WL 681752, at *40 (actual profits can be admissible as potentially probative of the expectation for the future that the hypothetical negotiators would have had as of the date of infringement). However, such evidence is entitled to minimal weight and must be considered among many factors. *See Fromson*, 853 F.2d at 1576 & n. 13; *see also Trans-World Manuf'g Corp.*, 750 F.2d at 1568). Accordingly, while arguably there is some support for the admission of Docutech's actual revenues as bearing on the reasonable royalty arrived at in the hypothetical negotiation, there is no basis for according it the type of weight that it was accorded in Dr. Stewart's model.

General Electric Co., 107 F.3d 1543, 1552 (Fed. Cir.), *cert. denied*, 118 S. Ct. 266 (1977) (citing *Rite-Hite Corp. v. Kelley Co. Inc.*, 56 F.3d 1538, 1549 (Fed. Cir. 1995), *cert. denied*, 516 U.S. 867 (1995)). Xerox argues that Dr. Stewart's incorporation of the entire value of revenues associated with the sale of the Docutech, which contains the Kolker invention as only one component, was improper because AccuScan failed to show that the Kolker invention formed the basis for customer demand for the entire Docutech product.

AccuScan contends that its damages base was not improperly inflated under this rule, because Dr. Stewart considered the numerous additional features contained in the Docutech in determining that a reasonable royalty rate should be 12.5%, rather that the 83% maximum royalty he had calculated. However, Dr. Stewart's reduction of the royalty rate from 83% to 12.5% was arbitrary and was not supported by any evidence in the record as to how this reduction corresponded with the proportion of the Docutech revenues that were derived from additional features, as opposed to from the Kolker invention. This arbitrariness was compounded by the fact that although the 12.5% royalty rate was calculated based on Docutech revenues, Dr. Stewart applied this same rate to the revenues from *all* infringing products — the Docutech, the 5775 color copier, SA4 scanner and the 7017/20/21 facsimile machines — in calculating AccuScan's damages, without any basis in the record for doing so. Moreover, merely because Dr. Stewart reduced the 83% maximum royalty rate does not make the royalty rate he arrived at, or indeed began with, acceptable. In other words, to simply reduce an improperly arrived at royalty rate arbitrarily, does not make the lower rate the proper royalty amount.

AccuScan also argues that, in any event, there was substantial evidence in the record from which a jury could conclude that the Kolker invention formed the basis for customer demand for the entire Docutech product. However, there is no evidence in the record that would support such a finding. As Dr. Stewart conceded, and Xerox's expert testified, the Docutech contains numerous other features and subcomponents. (Tr. 813-815). AccuScan points to evidence that the patented invention provided the best calibration method, and that the Docutech required such a method in order to produce a good quality image. (Tr. 836-37). This simply does not indicate that Xerox's use of the patented invention formed the basis for customer demand for the entire Docutech. *Cf. Fonar*, 107 F.3d at 1552 (where infringer's own literature regarding infringing product emphasized that the patented feature enhanced the infringing product's efficiency, a jury could conclude that the patented feature was the basis for customer demand for the entire product).

Finally, Dr. Stewart's analysis failed to comply with this Court's ruling with respect to Xerox's first *in limine* motion. Under the entire market value rule, liability may not be extended to include "items that have essentially no functional relationship to the patented invention and that may have been sold with an infringing device only as a matter of convenience or business advantage." *Rite-Hite Corp.*, 56 F.3d at 1550. Thus, in response to Xerox's first motion *in limine*, I ordered AccuScan to remove from its damages calculations revenues from sales of supplies, such as paper and toner. However, Dr. Stewart only removed these revenues from the royalty base, but did not remove them from the projections from which he calculated the reasonable royalty rate.

The only other evidence in the record as to AccuScan's damages, other than Dr. Stewart's testimony, was the testimony of Xerox's damages expert, David Haas. Haas testified that based on his consideration of the fifteen *Georgia-Pacific* factors, AccuScan's damages were $150,000, plus pre-judgment interest, or about $280,000 today. (Tr. 816-17). Thus, the jury, in awarding $40 million in damages, necessarily relied on Dr. Stewart's recommended royalty rate. Because it appears that the jury clearly relied on an impermissible basis in reaching its verdict, Xerox's motion for a new trial on damages is granted. *See Litton Systems Inc. v. Honeywell Inc.*, 140 F.3d 1449, 1465 (Fed. Cir. 1998).

B. The Marking Requirements of 35 U.S.C. § 287

Xerox also challenges this Court's summary judgment ruling that AccuScan had provided notice to Xerox of infringement with respect to scanners and copiers, as well as facsimile machines, by letter dated October 12, 1990. While I decline to grant Xerox judgment as a matter of law on this issue, I find that the issue of when AccuScan gave actual notice of infringement with respect to the non-facsimile machine products is an issue of fact that should have been submitted to the jury.[11]

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11. AccuScan argues that because Xerox did not seek reconsideration of this Court's summary judgment decision with respect to § 287, Xerox should not be permitted now to challenge this decision. However, a trial court has the power to reconsider the decisions it previously made on summary judgment as "further reflection may allow a better informed ruling." *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 839 F.2d 1544, 1551 (Fed. Cir.), *cert. denied*, 480 U.S. 828 (1988) (quoting *Corporation de Mercadeo Agricola v. Mellon Bank Int'l*, 608 F.2d 43, 48 (2d Cir. 1979)).

Appendix C

Section 287(a) requires patentees to mark the patent number on products they sell; this duty to mark extends to products sold under license. 35 U.S.C. § 287(a); *Loral Fairchild Corp. v. Victor Co. of Japan, Ltd.*, 906 F. Supp. 813, 816 (E.D.N.Y. 1995). A patentee who fails to mark cannot recover damages accruing prior to giving actual notice of infringement. 35 U.S.C. § 287(a). For purposes of § 287, notice must be of infringement, not merely of the patent's existence or ownership. *Amsted Indus. Inc. v. Buckeye Steel Castings Co.*, 24 F.3d 178, 187 (Fed. Cir. 1994). "The actual notice requirement of § 287(a) is satisfied when the recipient is informed of the identify of the patent and the activity that is believed to be an infringement, accompanied by a proposal to abate the infringement, whether by license or otherwise." *SRI Int'l, Inc. v. Advanced Technology Labs., Inc.*, 127 F.3d 1462, 1470 (Fed. Cir. 1997).

On October 12, 1990, AccuScan sent a letter to Xerox stating that it believed certain Xerox facsimile machines "operate in a manner which infringes the '144 patent" and offered Xerox a license under the '144 patent. This letter did not specifically refer to scanners, copiers or document publishing systems. (PTX 64). Xerox concedes that this letter constitutes actual notice of infringement with respect to facsimile machines. Scanners, copiers and document publishing systems are another matter. Xerox contends that AccuScan never specifically accused these products of infringing until after it filed this lawsuit, some three years after the patent expired, and thus that AccuScan is precluded from recovering any damages for these products. In my prior ruling on summary judgment, I found that AccuScan's letter to Xerox on October 12, 1990 constituted actual notice of

infringement for the other accused products, as well as for facsimile machines.

Xerox argues that the notice of infringement by facsimile machines could not put Xerox on notice of infringement by scanners, copiers or document publishing systems as a matter of law. Notice under § 287 cannot merely be of the patent's existence, but must be a specific charge of infringement by a specific product. *Amsted*, 24 F.3d at 187. Thus, says Xerox, notice with respect to one product does not qualify as notice for other unnamed products, citing *Refac Electronics Corp. v. A&B Beacon Business Machines Corp.*, 695 F. Supp. 753, 755 (S.D.N.Y. 1988). In *Refac*, the patentee sent a letter to the infringer, notifying him that it owned certain patents, and listing a number of infringing items including watches, clock radios and video cassette recorders. *Id.* at 754. The patentee brought a suit alleging that the infringer's electronic blood pressure monitor infringed its patent. The court held that the letter did not constitute notice that the blood pressure device, "a wholly different device" infringed the patent in suit. *Id.* at 755. The court indicated that all of the infringing devices listed in the letter were in the watch/clock family, noting that a video cassette recorder contains clock functions. *Id.* at 755 & n. 7.

The *Refac* case is distinguishable from the instant case. Scanners, copiers and document publishing systems are not "wholly different devices" than facsimile machines. Instead, these products are all part of the same family of devices. *Refac* therefore does not compel the result that AccuScan's 1990 letter fails as notice of infringement with respect to scanners, copiers, and document publishing systems as a

matter of law.[12] Moreover, there is no authority to support Xerox's proposition that the actual notice requirement cannot be satisfied as a matter of law unless the specific accused device is itself mentioned in the notice, even where other similar devices are referred to in the notice. Instead, the Federal Circuit has emphasized that there is some flexibility involved in determining whether the actual notice requirement has been met:

> Although there are numerous possible variations in form and content, the purpose of the actual notice requirement is met when the recipient is notified, with sufficient specificity, that the patent holder believes that the recipient of the notice may be an infringer. The actual notice requirement of § 287(a) is satisfied when the recipient is informed of the identify of the patent and the activity that is believed to be an infringement, accompanied by a proposal to abate the infringement, whether by license or otherwise.

SRI Int'l, Inc., 127 F.3d at 1470. Thus, a court could conclude, in appropriate circumstances, that notice was provided with respect to a product that was not specifically mentioned. *See T.D. Williamson, Inc. v. Laymon*, 723 F. Supp. 587, 606 (N.D. Okl. 1989), *aff'd*, 923 F.2d 871 (Fed. Cir. 1990), *cert. dismissed*, 500 U.S. 901 (1991) (where letter indicated that defendant's proposed use of a device to perform pipeline caliper likely infringed plaintiff's patent,

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12. In any event, the ruling in *Refac*, a Southern District of New York decision, while persuasive authority, is not controlling.

notice requirement was complied with as, unlike in *Refac*, there was no confusion about which devices the letter was intended to cover).

That said, however, it is well established that whether § 287 was complied with is an issue of fact for the jury. *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1111 (Fed. Cir. 1996), *cert. denied*, 117 S. Ct. 1244 (1997); *see, e.g.*, *Mawell v. K Mart Corp.*, 880 F. Supp. 1323, 1339 (D. Minn. 1995); *Wokas v. Dresser Industries, Inc.*, 978 F. Supp. 839, 845 (N.D. Ind. 1997). Although I do not find, as Xerox urges, that the 1990 letter fails as notice of infringement with respect to scanners, copiers and document publishing systems as a matter of law, upon reconsideration, I conclude that it was error not to let the matter go to the jury.[13]

Accordingly, at the second trial on damages, the factual issues of whether AccuScan complied with the requirements of § 287 and when AccuScan provided actual notice of infringement with respect to non-facsimile machines should be determined by the jury. Specifically, since AccuScan granted a license under the '144 patent in 1977, which did not require the licensee to mark their products (DTX ABJ), AccuScan can only establish that it complied with the marking requirements of § 287, if it shows that no patented articles were actually sold by its licensee or that substantially

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13. Contrary to AccuScan's argument, I adhere to my prior determination that AccuScan's March 9, 1989 letter to Xerox fails to satisfy the actual notice requirement with respect to any of the infringing products as a matter of law, because it neglects to identify any products that are allegedly infringing, but merely gives notice of the existence of the patent. *See Amsted*, 24 F.3d at 187.

all of the products sold by its licensee were marked. If it cannot establish that it complied with these marking requirements, AccuScan is precluded from recovering damages for facsimile machines until after October 12, 1990 and is precluded from recovering damages for the other infringing products until after it gave actual notice of infringement for these products, which issue should be determined by the jury.[14]

VI. *Willfulness*

AccuScan moves pursuant to Rule 50(b) for entry of judgment as a matter of law that Xerox's infringement of the '144 patent was willful. Whether infringement was willful is a question of fact, and willful infringement must be established by clear and convincing evidence. *SRI Int'l, Inc. v. Advanced Tech. Labs., Inc.*, 127 F.3d 1462, 1465 (Fed. Cir. 1997). In determining whether infringement was willful, the primary consideration is whether the infringer, acting in good faith and upon due inquiry, had sound reason to believe that it had the right to act in the manner that was found to be infringing. *Id.* at 1464. The finder of fact is required to consider the totality of circumstances in resolving the question of willfulness, including whether the infringer obtained and followed competent legal advice. *Ortho Pharmaceutical Corp. v. Smith*, 959 F.2d 936, 944 (Fed. Cir. 1992). However, absence of an opinion of counsel, as plaintiff contends, does not compel a finding of willfulness.

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14. Xerox argues that if this Court does not grant Xerox's motion under § 287, then the Court should limit AccuScan's damages for scanners and copiers under 35 U.S.C. § 286. Based on the above ruling, I need not reach this issue, however.

Rolls-Royce Ltd. v. GTE Valeron Corp., 800 F.2d 1101, 1109 (Fed. Cir. 1986).

Upon a review of the evidence and a consideration of AccuScan's arguments, I find that a reasonable jury could have found that AccuScan failed to establish by clear and convincing evidence that Xerox's conduct was willful. For example, there was evidence that upon receipt of AccuScan's March 6, 1989 letter asking Xerox to take a license under the '144 patent, Xerox investigated and responded to AccuScan's letter. (Tr. 443, PTX 62). After receiving the October 1990 letter regarding infringement of facsimile machines, Xerox launched an investigation, which resulted in an opinion by a Xerox attorney in January 1993. (Tr. 425, 443, PTX 152A). Later, Xerox obtained an opinion from outside counsel. (PTX 159). There was also ample evidence at trial that outlined Xerox's traditional patent practices, and negated a finding of willfulness. (DTZ AJZ, Tr. 562-565). Accordingly, AccuScan's motion for judgment as a matter of law on the issue of willfulness is denied.

CONCLUSION

For the foregoing reasons, Xerox's motion for judgment of non-infringement or invalidity or for a new trial on the issue of liability is DENIED, Xerox's motion for a new trial on the issue of damages, including the issue of whether plaintiff complied with the requirements of 35 U.S.C. § 287, is GRANTED and AccuScan's motion for entry of a judgment of willfulness is DENIED. The parties shall contact Chambers forthwith to schedule a mediation; allow several hours for the session. The mediation shall occur on or before

September 25, 1998. Should the session not result in closure, it may prompt a remittitur. Each side will bring to the conference at least one principle with knowledge of the facts and settlement authority and preferably no more than two lawyers. No papers are necessary.

SO ORDERED.

New York, New York
September 10, 1998

s/ Harold Baer, Jr.
U.S.D.J.

Appendix D

APPENDIX D — ORDER OF THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT DENYING PETITION FOR REHEARING DATED AND FILED JULY 3, 2001

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

00-1316, -1320, -1406

ACCUSCAN, INC.,

Plaintiff-Cross Appellant,

v.

XEROX CORPORATION,

Defendant-Appellant.

ORDER

A combined petition for panel rehearing and for rehearing en banc having been filed by the CROSS-APPELLANT, and the petition for rehearing having been referred to the panel that heard the appeal, and thereafter the petition for rehearing en banc having been referred to the circuit judges who are in regular active service,

UPON CONSIDERATION THEREOF, it is

ORDERED that the petition for panel rehearing be, and the same hereby is, DENIED and it is further

Appendix D

ORDERED that the petition for rehearing en banc be, and the same hereby is, DENIED.

The mandate of the court will issue on July 10, 2001.

Circuit Judge DYK did not participate in the vote.

FOR THE COURT,

s/ Jan Horbaly (AV)
Jan Horbaly
Clerk

Dated: July 3, 2001

Supreme Court, U.S.
FILED
NOV 16 2001
CLERK

No. 01-541

IN THE
Supreme Court of the United States

ACCUSCAN, INC.,

Petitioner,

v.

XEROX CORPORATION,

Respondent.

On Petition for Writ of Certiorari to the United States Court of Appeals for the Federal Circuit

RESPONDENT'S BRIEF IN OPPOSITION

Of Counsel:
BARRY J. KESSELMAN
OFFICE OF GENERAL COUNSEL
XEROX CORPORATION
8000 Long Ridge Road
Stamford, Connecticut 06904
(203) 968-3000

DONALD R. DUNNER
Counsel of Record
HOWARD W. LEVINE
FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.
1300 I Street, N.W.
Washington, D.C. 20005
(202) 408-4000

November 16, 2001

QUESTION PRESENTED

Should the Court overturn the decision below where the Federal Circuit did not apply the "complete bar" approach to the doctrine of prosecution history estoppel announced in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabuskiki Co., Ltd.*, 234 F.3d 558, 574-75, 56 U.S.P.Q.2d 1865, 1877 (Fed. Cir. 2000), but instead applied the uniform precedent of this Court and the Federal Circuit that a patentee cannot use the doctrine of equivalents to capture subject matter that was specifically surrendered to the Patent Office in order to obtain allowance of its claims?

PARTIES TO THE PROCEEDING BELOW

The parties are Petitioner, AccuScan, Inc., and Respondent, Xerox Corporation.

Xerox Corporation identifies the following company as a publicly held company that owns 10 percent or more of the stock of Xerox: State Street Bank and Trust Co., a subsidiary of State Street Corporation, 225 Franklin Street, Boston, Mass. 02110.

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STATEMENT OF THE CASE

I. INTRODUCTION

In *AccuScan v. Xerox*, the Federal Circuit prevented AccuScan from arguing that its claims mean one thing during the process of procuring a patent, but yet another during litigation. This decision was supported—and indeed compelled—by the well established precedent of this Court and the Federal Circuit. *See e.g., Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 30-34 (1997); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1173, 26 U.S.P.Q.2d 1018, 1024-25 (Fed. Cir. 1993).

Nevertheless, AccuScan argues that the Federal Circuit's decision in the instant case relied on the "complete bar" to asserting the doctrine of equivalents set forth in the Federal Circuit's *en banc* decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabuskiki Co., Ltd.*, 234 F.3d 558, 574-75, 56 U.S.P.Q.2d 1865, 1877 (Fed. Cir. 2000), *cert. granted*, 121 S. Ct. 2519 (U.S. Jun. 18, 2001) (No. 00-1543). AccuScan makes this argument in a blatant attempt to bootstrap the above captioned case to this Court's decision to grant certiorari in *Festo*. Yet, contrary to AccuScan's assertions, this case has absolutely nothing to do with the "complete bar" approach adopted by *Festo*.

In *Festo*, the Federal Circuit held that once a narrowing amendment has been made to a claim element for reasons of patentability, there arises a "complete bar" to invoking the doctrine of equivalents to this claim element. *Id.* at 569. This "complete bar" is applied irrespective of "the breadth of the [Examiner's] rejection, the closeness of the

prior art, the manner of the applicant's remarks and amendments, or the nature of the technology." *Id.* at 600 (Michel, J., dissenting-in-part).

In the instant case, however, the Federal Circuit did *not* apply the "complete bar" of *Festo,* but instead carefully considered the breath of the Examiner's rejection, the closeness of the prior art, the nature of the applicant's remarks, and the nature of the technology. In so doing, the Federal Circuit specifically examined the prosecution of the application that led to AccuScan's U.S. Patent No. 3,952,144 ("the '144 patent"), and found that in order to overcome a prior art reference cited by the Examiner, AccuScan unambiguously argued that its claims did *not* cover certain subject matter. The Federal Circuit then found that the undisputed evidentiary record demonstrated that the four accused Xerox devices practiced the very subject matter that AccuScan disavowed in order to obtain allowance of its claims.

Accordingly, the Federal Circuit correctly held that there could be no literal infringement since AccuScan's claims could not be interpreted to cover subject matter specifically disavowed during prosecution. Likewise, and far from applying the "complete bar" of *Festo*, the Federal Circuit held that based on the clear and unambiguous surrender of the very subject matter that was practiced by Xerox's accused devices, AccuScan was estopped, under the doctrine of prosecution history estoppel, from arguing that Xerox's accused devices infringed under the doctrine of equivalents.

Therefore, as AccuScan's first two questions presented to this Court are erroneously premised upon the

Federal Circuit's application of the *Festo* "complete bar," this Court should preserve its limited judicial resources and deny certiorari as to these questions.

AccuScan's third question, concerning the right to a jury trial, also rests on a fundamental mischaracterization of the Federal Circuit's decision. Contrary to AccuScan's assertions, the Federal Circuit did not "summarily" apply prosecution history estoppel to preclude application of the doctrine of equivalents. Instead, the Federal Circuit carefully examined the prosecution history and determined that AccuScan surrendered during prosecution the very subject matter that constituted Xerox's accused devices. This decision was supported by well-established precedent and does not in any way implicate the Seventh Amendment right to a jury trial. Accordingly, certiorari should be denied for this question as well.

II. THE TECHNOLOGY UNDERLYING ACCUSCAN'S '144 PATENT

In order to fully understand the Federal Circuit's opinion, it is useful to understand the technology at issue. The technology claimed by AccuScan's '144 patent "calibrates" the scanning portion of a facsimile machine. In transmitting the contents of a document to another facsimile machine, the facsimile machine described by the '144 patent specification scans a document with a beam of light. A photosensor senses the light reflected off the document and generates an electrical signal—designated "a video input signal"— that varies according to the amount of reflected light. This video input signal (referred to as "V_{in}"), however, is subject to undesirable "voltage offsets" and "gain

variations" that reduce the accuracy of the image produced by the receiving facsimile machine.

To maintain the accuracy of the image sent to the receiving facsimile machine, the machine described by the '144 patent automatically "calibrates" the video input signal to eliminate these "voltage offsets" and "gain variations." The circuit responsible for carrying out the calibration of the video input signal is designated the "Automatic Background and Contrast Control unit" ("the ABC circuit").

The ABC circuit performs its task by measuring the input signal obtained from scans of known samples of black and white. Like finding North and South on a map before determining one's position, the ABC circuit uses the values obtained from these known samples of black and white to calibrate the video input signals obtained from a subsequent scan of a document.

To obtain the values for white and black, the ABC circuit scans a "calibration strip." The calibration strip has a black portion and a white portion. The ABC circuit obtains a black sample—designated V_b—from the black part of the calibration strip and obtains a white sample—designated V_w—from either the white part of the calibration strip or from the background of the document itself. The circuit stores these values during the entire scan of the document.

The ABC circuit then calibrates the video input signal using these white and black values. It does so by converting the video signal obtained from the scan of the document to values that are always—despite any voltage offsets or gain variations—between 1 and 0. The patent also discloses that the values between 1 and 0 can be multiplied by a

predetermined constant called a "scale factor" to obtain values between 0 and the scale factor.

According to claim 1 of the '144 patent, the claimed apparatus makes this conversion by obtaining "the difference in magnitude [between the] input signal and [the] first sample *divided* by the difference in magnitude [between the] first and second samples."[1] In the ABC circuit described by the '144 patent, the first sample is black and the second sample is white.

The operation of the ABC circuit can be best illustrated by assuming the following hypothetical values: the scan of the first or black sample (V_b) provided a value of 2 volts; the scan of the second or white sample (V_w) provided a value of 6 volts; and the scan of the video input signal (V_{in}) provided a value of 3 volts.

The ABC circuit subtracts the first sample from the video input signal (V_{in} -V_b) providing a value of 1 volt (3-2=1). It also subtracts the first sample from the second sample (V_w-V_b) providing a value of 4 volts (6-2=4). Next, it divides—utilizing a "divide circuit"— the 1 volts by the 4 volts (V_{in}-V_b/ V_w-V_b) to obtain a value of .25 (1/4=.25)—a value between 0 and 1. Finally, the ABC circuit multiples the value obtained by 10 (the scale factor) to obtain values between 0 and 10. Thus, in the above example, the final value for the calibrated video signal is 2.5 (10 x .25=2.5). In this way, the ABC circuit eliminates voltage offsets that distort the reproduced image received by the receiving facsimile machine.

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[1]The subject matter of claim 17 is substantially similar to claim 1, although presented in the format of a method claim.

III. ACCUSCAN SURRENDERED COVERAGE OF XEROX'S ACCUSED DEVICES DURING PROSECUTION TO DISTINGUISH OVER KRALLINGER

A. AccuScan Was Forced To Severely Limit Its Claims During Prosecution

Like the device described by the '144 patent, U.S. Patent No. 3,761,610 (referred to as "Krallinger") also disclosed a facsimile system that calibrates a video input signal using known samples of black and white. As set forth below, AccuScan was forced to drastically limit the scope of its claims to overcome this reference.

Krallinger calibrates a video input signal by obtaining a black sample from a "black band" that precedes each line of text of the document and by obtaining a white sample from the background of the document itself. The device then uses the black and white samples to calibrate the voltage of a video input signal so that it varies only between 0 for black signals to a predetermined constant (designated "V_r") for white signals. Like the scale factor described by the '144 patent, V_r represents the maximum value produced after calibration.

However, unlike the ABC circuit disclosed by the '144 patent, Krallinger *does not store a white sample that is held during the entire scan of the document*. Instead, Krallinger obtains the value for the white sample for each line of text of the document and immediately converts it into a "*gain value*." (App. at 5.) This gain value is equal to the predetermined constant (V_r) divided by the difference

between the white sample and the black sample (V_r/ V_w-V_b). It is the "gain value"—and not the white sample—that is stored and multiplied by the difference between the video input signal and the value stored for the black sample (V_{in}-V_b). (App. at 5.)

Therefore, using the numbers set forth above, Krallinger would subtract the black value from the white value (V_w-V_b) to obtain the value 4 (6–2=4). Accordingly, the gain value (V_r/V_w-V_b) would be 2.5 (10/4 =2.5). The Krallinger device then multiplies the gain value (2.5) by the video input signal minus the value for the black sample (V_{in}-V_b or 3-2=1) to obtain the value 2.5 (2.5 x 1=2.5) for the normalized video signal—the exact same value produced by the claimed ABC circuit.

Moreover, as a consequence of multiplying the difference of the input signal and the black sample (V_{in}-V_b) by the gain value (V_r /V_w-V_b), the Krallinger device does not perform division during the scan of the document. (App. at 5-6.)

During prosecution, the Examiner rejected the claims of the '144 patent corresponding to the ones at issue as obvious over Krallinger. (App. at 2.) In its response, AccuScan pointed out that Krallinger does *not* store a white sample for the entire scan of the document, but instead, converts the value obtained for the white sample to a *gain value*. (App. at 5-6.) As claim 1 of the '144 patent requires three elements: (1) a means for storing a first sample, (2) a means for *storing a second sample*, and (3) a means for "*continually combining*" the input signal with the first and *second samples* to obtain a normalized or corrected signal, AccuScan argued that Krallinger did not fall within the

scope of the '144 patent's claims because it did not store a second or white sample—element (2)—and thus could not possibly "continually" combine the input signal with the first and second samples to obtain a normalized signal—element (3). (App. at 7-8, emphasis added.)[2]

More specifically, AccuScan argued that in the claimed ABC circuit, "[t]he black and white samples *are held throughout the complete scanning of the complete document page*" and then *"continuously combined"* to form the output signal. (App. at 4, emphasis added.) "It is clear, however, that *a white sample is not stored or utilized during this operating period* [by the Krallinger device]." (App. at 6, emphasis added.) "Krallinger . . . may show a device which stores a sample of the black value of the input signal *but [it does] not store a second sample of the white value of the input signal*." (App. at 7, emphasis added.)

Therefore, because Krallinger did not actually store a second sample but only calculated "a gain value," AccuScan argued Krallinger had "no apparatus which is operable during the operating period for 'combining said input signal and said first and second samples . . . .'" (App. at 7, emphasis in original.) Indeed, to emphasize the claimed invention's differences over Krallinger, and contrary to AccuScan's assertions to this Court, AccuScan specifically *amended* claim 1 to indicate that claimed device "continually" combined the input signal with both the first and second samples. (App. at 7-8.)

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[2]AccuScan distinguished claim 18, the claim corresponding to method claim 17, on essentially the same basis. (App. at 11.)

In addition to not storing a second sample, AccuScan further distinguished Krallinger by arguing that while its claims required a *division operation* during the scan of the document, the input signal in *Krallinger* "is multiplied by the temporarily fixed gain [the gain value]" (App. at 5-6, emphasis in original.) In Krallinger, "no divide circuit is utilized, the operation being merely that of setting the gain of the amplifier 24 [the gain value] and then using this fixed gain . . . as a multiplying . . . unit." (App. at 6.)

Thus, in order to obtain allowance of claims 1 and 17 of the '144 patent, AccuScan specifically argued that these claims did *not* cover circuits that (1) do not store and hold a white sample during the entire scan of the document, (2) do not continually combine the input signal with the black and white samples during the entire scan of the document, and (3) do not utilize a divide circuit during the scan of the document to calibrate the input signal.

B. Xerox's Accused Devices

The undisputed evidence in the record established that the four Xerox products AccuScan accused of infringement, the DocuTech Publishing System, the 5775 Color Copier, the 7017/20/21 facsimile machine, and the SA4 Scanner, (1) do not store and hold a white sample during the scan of the entire document, and (2) do not continually combine the input signal with the black and white samples during the entire scan of the document. (AccuScan Pet. App. at 13a.)

In particular, the expert testimony at trial demonstrated that rather than storing a white sample, the DocuTech system and the 5775 copier—like Krallinger—

calculate a gain value before the scanning period and store and use this gain value to calibrate the video signal during the entire scan of the document. Likewise, the evidence demonstrated that the 7017/20/21 facsimile machine and the SA4 scanner also do not store a white sample, but instead store the difference between the black and white samples during the scan of the document. (*Id.*)

Moreover, the undisputed evidence at trial indicated that neither the DocuTech system nor the 5775 color copier utilized a divide circuit during the entire scan of the document to calibrate the input signal. (AccuScan Pet. App. at 9-10a.) Again like Krallinger, the DocuTech system multiplies—not divides—the difference between the input and the black sample by a gain value to calibrate the signal during the scan of the document. (*Id.*) In the same way, the 5775 copier subtracts logarithms and does not utilize a divide circuit. (*Id.*)

IV. THE FEDERAL CIRCUIT'S DECISION

After a jury awarded AccuScan millions of dollars for Xerox's alleged infringement of the '144 patent, Xerox appealed to the Federal Circuit, arguing that the claims in question, as a matter of law, could not be interpreted to cover Xerox's accused devices based on the positions taken by AccuScan during prosecution. The Federal Circuit agreed.

In reaching its decision, the Federal Circuit applied well established precedent and correctly held that "[a]rguments and amendments made during the prosecution of the '144 patent limit the interpretation of the claim terms so as to exclude any interpretation that was disclaimed during prosecution." (AccuScan Pet. App. at 5a.)

Based on the statements discussed above, the court found that during prosecution, "AccuScan explicitly disclaimed coverage of any device performing the mathematical calculation yielding [the video output signal] by something other than a divide circuit." (AccuScan Pet. App. at 9a.) The court then explained that it was "uncontested" that neither the DocuTech nor the 5775 copier utilize a divide circuit to calculate the video output signal. (*Id.*) In response to AccuScan's position that the mathematical operations performed by the DocuTech and 5775 copier constituted a form of division and were thus covered by the claim, the Federal Circuit explained that while AccuScan may be "mathematically correct" in the abstract, AccuScan "explicitly disclaimed such an interpretation during prosecution." (*Id.* at 10a.)

In addition to limiting its claims to circuits that performed division during the scan of the document, the Federal Circuit further relied on the statements set forth above concerning the continual storage of a white sample. The Federal Circuit explained that during prosecution, "AccuScan distinguished the '144 patent over other devices which did not store a sample of the white signal," including devices (such as Krallinger) that "use the white sample signal to create a related value [a gain value] which is then stored." (*Id.* at 12a.) "[T]he prosecution history makes it clear that such a mathematically related value [a gain value] is not equivalent to the '144 patent's storage of a separate white sample signal." (*Id.*) The court further stated that "a distinguishing feature of the '144 patent is the continual storage and continuous use of the separately stored black and white samples throughout the scanning of an entire document." (*Id.*) Accordingly, the Federal Circuit held that

the claims at issue "require continuous 'storing' of the [white sample] value in its pure form, and continuous 'combining' of this value throughout the scanning of the document." (*Id.* at 13a.)

The Federal Circuit then examined the evidentiary record and determined that "[t]he diagrams of the operation of the Xerox devices *created by AccuScan* make it clear that the four different Xerox product lines at issue only temporarily store the white sample . . . in its pure form." (*Id.*, emphasis added.) Moreover, the court found that there was "no dispute that this is a correct characterization of the accused Xerox products." (*Id.*) Thus, because the white sample is only stored temporarily, "it cannot be used continuously as required by the '144 patent claims . . . in light of the prosecution history." (*Id.*) Accordingly, the Federal Circuit held that there was no literal infringement as AccuScan's claims could not be interpreted to cover Xerox's accused devices.

Furthermore, based on this clear and unambiguous surrender of subject matter during prosecution, the Federal Circuit also held that AccuScan could not now use the doctrine of equivalents to capture such subject matter. (*Id.*) In reaching this decision, the Federal Circuit cited *Festo Corp. v. Shoketsu Kinzoku Kabushiki Co. Ltd.*, 234 F.3d 558, 564, 56 U.S.P.Q.2d 1865, 1869 (Fed. Cir. 2000) ***and*** *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1173, 26 U.S.P.Q.2d 1018, 1024-25 (Fed. Cir. 1993), a case conspicuously absent from AccuScan's discussion of the Federal Circuit's opinion.[3]

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[3] AccuScan omitted *Texas Instruments* from the quotation from the Federal Circuit's opinion that appears on page 19 of AccuScan's petition.

REASONS FOR DENYING THE WRIT

I. THE FEDERAL CIRCUIT DID NOT APPLY THE "COMPLETE BAR" ANNOUNCED IN *FESTO*

This Court should not expend its extremely limited resources by examining a patent infringement case where the Federal Circuit applied the uniform precedent of this Court and the Federal Circuit. These decisions correctly hold that one cannot use the doctrine of equivalents to capture subject matter that was surrendered during prosecution in order to obtain allowance of the claims. *See e.g., Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 30-34 (1997) (explaining that the doctrine of prosecution history estoppel limits the application of the doctrine of equivalents where the patentee has made "amendments . . . to avoid prior art, or otherwise . . . address[ed] a specific concern—such as obviousness—that arguably would have rendered the claimed subject matter unpatentable."); *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 192 F.3d 973, 981, 52 U.S.P.Q.2d 1109, 1115 (1999) ("Prosecution history estoppel prevents operation of the doctrine of equivalents from expanding a claim limitation to include subject matter surrendered during the patent's prosecution."); *EMI Group N. Am., Inc. v. Intel Corp.*, 157 F.3d 887, 897, 48 U.S.P.Q.2d 1181, 1188 (Fed. Cir. 1998) (holding that a process will "avoid the reach of the doctrine of equivalents . . . if the asserted variation had been relinquished during prosecution."); *Southwall Technologies,*

AccuScan's failure to cite this case is significant because, as set forth below, in *Texas Instruments*, the Federal Circuit did not apply the "complete bar" approach to prosecution history estoppel.

Inc. v. Cardinal IG Co., 54 F.3d 1570, 1579, 34 U.S.P.Q.2d 1673, 1679 (Fed. Cir. 1995) ("Thus, prosecution history estoppel limits the range of equivalents . . . by preventing recapture of subject matter surrendered during prosecution of the patent."); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1173, 26 U.S.P.Q.2d 1018, 1024 (Fed. Cir. 1993) (cited by the Federal Circuit below) ("Prosecution history estoppel will not allow the patentee to extend the range of equivalents . . . to subject matter relinquished during prosecution of the patent."); *Haynes Int'l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1577, 28 U.S.P.Q.2d 1652, 1655 (Fed. Cir. 1993) ("The essence of prosecution history estoppel is that a patentee should not be able to obtain, through litigation, coverage of subject matter relinquished during prosecution.").

In an effort to overcome this overwhelming authority, AccuScan's first two questions and corresponding arguments distort the Federal Circuit's opinion by alleging that the Federal Circuit relied on the "complete bar" approach to prosecution history estoppel set forth in *Festo*. (*See e.g.*, AccuScan Pet. at i, 4-5, 8, 11-13.) AccuScan does this in a blatant attempt to bootstrap this case to the Court's decision to grant certiorari in *Festo*.

AccuScan's argument, however, must be rejected because in the instant case, the Federal Circuit simply did *not* apply the "complete bar" approach set forth in *Festo*. Under the "complete bar" approach adopted in *Festo*, once a narrowing amendment has been made to a claim element for reasons of patentability, there arises a "complete bar" to invoking the doctrine of equivalents to this claim element. 243 F.3d at 569. The "complete bar" is applied irrespective of "the breadth of the [Examiner's] rejection, the closeness of

the prior art, the manner of the applicant's remarks and amendments, or the nature of the technology." *Id.* at 600 (Michel, J., dissenting-in-part). The "complete bar" approach should be contrasted to the "flexible bar" approach rejected by the *en banc* court in *Festo*. Under this "flexible bar," courts examine the particular amendment made during prosecution and determine whether the accused "device [was] similar to the prior art that had provoked the amendment." *Id.* at 572. Only in those cases where the device was similar would a court estop the patentee from relying on the doctrine of equivalents. *Id.*

In the instant case, the Federal Circuit clearly did *not* rely on the *Festo* "complete bar," but instead—consistent with the above authority—carefully considered the arguments made by AccuScan and then examined whether Xerox's accused devices constituted the sort of devices disavowed by AccuScan during prosecution. After determining that Xerox's accused devices constituted the very subject matter that was explicitly disclaimed during prosecution, the court held that AccuScan was estopped from arguing that such devices infringed under the doctrine of equivalents. The Federal Circuit specifically stated "[f]or purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable *surrender of the structure employed by Xerox*." (AccuScan Pet. at App. 13a, emphasis added.) If the Federal Circuit had applied a "complete bar," it would not have had to comment on Xerox's accused devices at all.

AccuScan, however, argues that the Federal Circuit relied solely on *Festo* in reaching its decision. (AccuScan Pet. at 12, 19.) Yet, contrary to AccuScan's assertions, the Federal Circuit relied on *two cases* to estop AccuScan from

utilizing the doctrine of equivalents. (AccuScan Pet. App. at 13a.) A careful review of these cases further demonstrates that the Federal Circuit did not apply a "complete bar."

First, the Federal Circuit cited *Festo*, 234 F.3d at 564, 56 U.S.P.Q.2d at 1869. While this citation provides the linchpin for AccuScan's entire argument that the Federal Circuit applied a "complete bar," AccuScan conveniently ignores the fact that while the page of the *Festo* opinion cited by the Federal Circuit does provide a summary of the answers to the *en banc* questions posed to the Federal Circuit, the page also provides a general background to the history and application of the doctrine of prosecution history estoppel. 234 F.3d at 564. In explaining the doctrine, the Federal Circuit stated that"[a]ctions by the patentee, including claim amendments and arguments made before the Patent Office, may give rise to prosecution history estoppel," and that "[p]rosectuion history estoppel precludes a patentee from obtaining under the doctrine of equivalents coverage of subject matter that has been relinquished during the prosecution of its patent application." *Id.* (quoting *Pharmacia & Upjohn Co. v. Mylan Pharms., Inc.*, 170 F.3d 1373, 1376-77, 50 U.S.P.Q.2d 1033, 1036 (Fed. Cir. 1999)). These statements in no way implicate the "complete bar," reflect well established precedent as set forth above, and were most likely the statements relied on by the Federal Circuit in the instant case, particularly as this case involves arguments advanced during prosecution in addition to actual amendments to the claim. Indeed, the concept of the "complete bar" approach *does not even appear on the page of the U.S.P.Q.2d version of Festo* (56 U.S.P.Q.2d at 1869) cited by the Federal Circuit. If the Federal Circuit was actually citing to the "complete bar" concept, this citation would be incorrect.

That the Federal Circuit was not relying on the "complete bar" aspect of *Festo* is further shown by the court's citation to *Texas Instruments*, 988 F.2d 1165, 1173, 26 U.S.P.Q.2d 1018, 1024-25 (Fed. Cir. 1993), a case decided seven years before *Festo*. In that case, the Federal Circuit stated that "prosecution history estoppel will not allow the patentee to extend the range of equivalents . . . to subject matter relinquished during prosecution" and that the "prosecution history to which we may look includes . . . representations made to the Examiner that the invention is patentable." *Id.* (citation omitted). The court then determined that during prosecution, the patentee argued that its claims were "patentable because of [an] *opposite*-side gating limitation" not taught by prior art. *Id.* at 1175 (emphasis added). After examining the technology at issue, the court found that the accused device did not use opposite side gating, but the *same* side gating surrendered by the patentee during prosecution. *Id.* at 1173. Accordingly, the Federal Circuit held that the patentee was estopped from arguing that the accused device infringed under the doctrine of equivalents. *Id.* at 1175. *Texas Instruments* represents the epitome of the "flexible bar" approach and further demonstrates the weakness of AccuScan's strained argument that the Federal Circuit applied the *Festo* "complete bar" in the instant case.

AccuScan also contends that the Federal Circuit applied a "complete bar," by arguing that it "summarily" disposed of the doctrine of equivalents issue with a single sentence without carrying out any analysis. (AccuScan Pet. at 4.) AccuScan states that the Federal Circuit "overstepped" precedent "when it forwent analysis of infringement under the doctrine of equivalents by relying solely on its analysis of

literal infringement." (AccuScan Pet. at 6.) These arguments, however, again represent a gross mischaracterization of the Federal Circuit's opinion.

While determinations of literal infringement and prosecution history estoppel are separate determinations, they are often made based on the same underlying facts. *See, e.g., Spectrum Int'l Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1380, 49 U.S.P.Q.2d 1065, 1070 (Fed. Cir. 1998) (using same factual analysis to demonstrate that there was no literal infringement or infringement under the doctrine of equivalents).

To determine literal infringement, courts first interpret the claims based on the claim language, the specification, and the prosecution history, and second, compare the properly interpreted claims to the accused device. *Markman v. Westview Instruments Inc.*, 52 F.3d 967, 976, 979, 34 U.S.P.Q.2d 1321, 1326, 1329 (Fed. Cir. 1995), *aff'd*, 517 U.S. 370 (1996).

To determine whether a patentee is estopped from using the doctrine of equivalents, courts first determine whether the patentee surrendered subject matter during prosecution in order to obtain allowance of its claims, and second, examine whether the accused devices constituted the sort of subject matter surrendered by the patentee. *Texas Instruments*, 988 F.2d at 1173. Thus, while these analyses are separate, they both rely on the representations made to the Patent and Trademark Office during prosecution and an understanding as to the operation of the accused devices.

Here, after examining the prosecution history and the operation of Xerox's accused devices, the Federal Circuit

held that there could be no literal infringement. Based on these same very facts, the Federal Circuit was able to conclude that "[f]or purposes of infringement under the doctrine of equivalents, the patentee is also bound by the clear and unmistakable *surrender of the structure employed by Xerox*." (AccuScan Pet. App. at 13a, emphasis added.) AccuScan's assertion that the Federal Circuit "summarily" applied prosecution history estoppel ignores the detailed and comprehensive factual analysis undertaken by the court. AccuScan's implicit suggestion that the Federal Circuit needed to repeat this same exact factual analysis again in a section of the brief entitled "Prosecution History Estoppel" defies logic.

Accordingly, as AccuScan is simply wrong that the Federal Circuit applied the "complete bar" approach to prosecution history estoppel, this Court should deny certiorari on AccuScan's first two questions.

II. WELL ESTABLISHED AND UNIFORM PRECEDENT ESTABLISH THAT ARGUMENTS ADVANCED DURING PROSECUTION CAN CREATE AN ESTOPPEL

AccuScan argues that while the Federal Circuit in *Festo* only applied the "complete bar" to actual claim *amendments*, the Federal Circuit further departed from established precedent by applying a "complete bar" to *arguments* made during prosecution. (AccuScan Pet. at i.) AccuScan's assertion, however, can be rejected out of hand for the reasons discussed above, namely that the Federal

Circuit did not apply the "complete bar" of *Festo* in the case below.[4]

Furthermore, to the extent AccuScan contends that arguments made during prosecution cannot create an estoppel, well established and uniformly applied precedent clearly demonstrate the contrary. *Cortland Line Co. v. The Orvis Co., Inc.*, 203 F.3d 1351, 1360, 53 U.S.P.Q.2d 1734, 1739 (Fed. Cir. 2000) (holding that the patentee's statements during prosecution "evinc[e] a clear and unmistakable surrender"); *Elkay*, 192 F.3d at 981 (holding that "[a]rguments and amendments made to secure allowance of a claim . . . presumably give rise to prosecution history estoppel."); *Texas Instruments*, 988 F.2d at 1174 ("[u]nmistakable assertions made by the applicant to the Patent and Trademark Office . . . may operate to preclude the patentee from asserting equivalency."); *Spectrum*, 164 F.3d at 1380; *Haynes Int'l*, 8 F.3d at 1579.

---

[4] Moreover, AccuScan did *amend* one of the claim elements that AccuScan later argued could encompass Xerox's accused devices. During prosecution, AccuScan specifically amended claim 1 to indicate that the claimed device "*continually*" combined the input signal with both the first (black) and second (white) samples. (App. at 8, emphasis added.) Accordingly, the Federal Circuit held that the claims at issue "require continuous 'storing' of the [white sample] value in its pure form, and *continuous 'combining' of this value throughout the scanning of the document.*" (AccuScan Pet. App. at 13a, emphasis added.) After finding that Xerox's accused devices only store the white sample temporarily, the Federal Circuit held that in Xerox's accused devices, the white sample value "cannot be used continuously as required by the '144 patent claims" and thus cannot infringe either literally or under the doctrine of equivalents. (*Id.*)

Accordingly, AccuScan's argument that the instant case constitutes an expansion of the Federal Circuit's decision in *Festo* must be rejected.

III. THE FEDERAL CIRCUIT'S DECISION DOES NOT IMPLICATE THE SEVENTH AMENDMENT RIGHT TO A JURY

AccuScan argues that by applying a *Festo* "complete bar" and "summarily" estopping the application of the doctrine of equivalents, the Federal Circuit violated the Seventh Amendment to the Constitution. (AccuScan Pet. App. at 17-21.) AccuScan's argument, however, is seriously misplaced for several reasons.

First, as stated above, the Federal Circuit did *not* apply the *Festo* "complete bar" approach but instead examined Xerox's accused devices to determine whether AccuScan has surrendered such subject matter during prosecution. Second, as also stated above, the court *did* not "summarily" estop AccuScan but instead performed a detailed analysis of the facts underlying Xerox's prosecution history estoppel defense.

Third, while AccuScan correctly states that the application of the doctrine of equivalents is a question of fact (AccuScan Pet. at 18), the application of prosecution history estoppel has long been considered a question of law. *Spectrum*, 164 F.3d at 1380; *Wang Labs., Inc. v. Mitsubishi Elec. Am., Inc.*, 103 F.3d 1571, 1577-78, 41 U.S.P.Q.2d 1263, 1269 (Fed. Cir. 1997); *Mark I. Marketing Corp. v. Donnelley & Sons Co.*, 66 F.3d 285, 291, 36 U.S.P.Q.2d 1095, 1100 (Fed. Cir. 1995); *Southwall*, 54 F.3d at 1579;

Texas Instruments, 988 F.2d at 1173; *LaBounty Mfg., Inc. v. United States Int'l Trade Comm'n*, 867 F.2d 1572, 1576, 9 U.S.P.Q.2d 1995, 1998 (Fed. Cir. 1989). AccuScan's assertions to the contrary are contradicted by this precedent and should be rejected. *Cf. Markman*, 52 F.3d at 987 (analogizing the review of a patent's prosecution history to statutory interpretation).

Indeed, the very "questions" that AccuScan argues should have been submitted to the jury demonstrate the fallacy of AccuScan's position. For example, AccuScan contends that the following question should have been submitted to the jury:

> Under the doctrine of equivalents, is a circuit that divides X by Y and then multiplies the resulting value by a constant the same as a circuit that divides a constant by Y and then multiplies the resulting value by X?

(AccuScan Pet. at 21.) This question, however, is exactly the sort of question that should *not* have been presented to the jury because, during prosecution, AccuScan specifically argued that a circuit that divides by the difference between the black and white samples and multiplies by a scale factor is completely different and patentably distinct from a circuit that multiplies by a gain value (scale factor divided by the difference between the white and black samples). AccuScan cannot simply back away from these clear and unambiguous representations, which provided the basis for the patentability of its claims, because it now finds such statements inconvenient.

Thus, as a matter of law, the Federal Circuit correctly found that because AccuScan argued that division by the difference between the black and white samples was different from multiplication by a gain value, it was estopped from now arguing to the jury in the context of litigation that these two operations were equivalent. This is the very essence of prosecution history estoppel as it has been applied for years. *Haynes Int'l*, 8 F.3d at 1579.

Finally, AccuScan never raised before the Federal Circuit its novel argument that the doctrine of prosecution history estoppel is a factual question to be decided by the jury, rather than a question of law for the court. This Court does not "[o]rdinarily . . . decide questions not raised or resolved in the lower court[s]." *Taylor v. Freeland & Kronz*, 503 U.S. 638, 646 (1992)(citing *Youakin v. Miller*, 425 U.S. 231, 234 (1976)). Accordingly, there is no reason to even reach this issue.

CONCLUSION

For the foregoing reasons, Xerox urges the Court to deny AccuScan's petition for a writ of certiorari in its entirety.

Respectfully submitted,

Of Counsel:
Barry J. Kesselman
Office of General Counsel
Xerox Corporation
8000 Long Ridge Road
Stamford, CT 06904
(203) 968-3000

Donald R. Dunner
Counsel of Record
Howard W. Levine
FINNEGAN, HENDERSON,
FARABOW, GARRETT &
DUNNER, L.L.P.
1300 I Street, N.W.
Washington, D.C. 20005-3315
(202) 408-4000
Counsel for Respondent
Xerox Corporation

APPENDIX

APPENDIX A

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	CARL RAYMOND KOLKER	:	
		:	Group Art
Serial No.:	511,422	:	No. 233
Filed:	October 2, 1974	:	Examiner Britton
For:	METHODS AND APPARATUS FOR AUTOMATIC BACKGROUND AND CONTRAST CONTROL	:	

Beverly Hills, California 90212
October 14, 1975

Hon. Commissioner of Patents
and Trademark
Washington, D.C. 20231

AMENDMENT

Sir:

Responsive to the Office Action dated June 20, 1975, please amend the above-identified application as follows:

IN THE SPECIFICATION:

At page 3, line 27, after "application", please insert - - now U. S. Patent No. 3,843,839 - -;

Page 13, line 28, before "to", insert - - , now U. S. Patent No. 3,843,839 - -;

Page 14, line 16, after "312,114", insert - - , now U. S. Patent No. 3,843,839 - -;

IN THE CLAIMS:

Claim 1, line 11, after "for", insert - - continually - -;

Claim 10, line 3, after "connected", insert - - in shunt connection - -;

CANCEL CLAIM 17.

REMARKS

Patent Numbers have been supplied in the specification as required by the Examiner. Correction of the drawings Fig. 1, have been authorized in a separate Letter to the Office Draftsman as required by Examiner and by Item 7 in the Notice of Informal Patent Drawings. In addition, in the correction to the drawings, the input line designated EOF to Unit 41b has been shortened so as to use the same convention with respect to EOF inputs as was used with Unit 43b, i.e., that these are all reception points for the signal EOF from Unit 71.

In the Office Action, the Examiner rejected all of the claims in this case, Claims 1 through 19, under 35 U.S.C. §103, as obvious over the Krallinger, et al. reference in view of the Johnson reference. This rejection is respectfully traversed for reasons which will be set forth fully below.

In order to clarify the reasons for traversal of the rejection, it is desirable to first briefly describe the nature and structure of the Automatic Background and Contrast Control system of the present invention as contrasted with the Krallinger, et al. and Johnson devices. The ABC unit of the present invention includes both a sequencing circuit and a sampling and signal processing circuit and is specially adapted to be used in a facsimile transmitter or receiver. In such operation with a facsimile transmitter, the transmitter develops a ramp deflection voltage which deflects the transmitter scanning element in a calibration scan across a calibration strip which has first an extended black area and then an extended white area established thereon. The sequencing circuit of the ABC unit is responsive to the transmitter's ramp deflection voltage to produce a first sampling signal when the ramp voltage reaches a predetermined magnitude corresponding to the scanning of the black area of the calibration strip and produces a second sampling signal when the ramp voltage reaches a second predetermined magnitude corresponding to the scanning of the white area of the calibration strip.

In the sampling and signal processing functions the ABC unit is operated under the control of these two separated first and second sampling signals. In response to the first sampling signal, the ABC unit stores in the input capacitor of an operational amplifier a sample of the video signal then being produced by the transmitter scanning element, this sample of the video input signal thus being representative of the black shade of the calibration strip then being traversed during the calibration scan. In response to the second sampling signal, the ABC unit stores in the input capacitor of a second operational amplifier a second sample of the video input signal corresponding to the white shade or value of the calibration strip being scanned. Thus, at the

completion of the calibration scan separate black and white representing samples of the input video signal are held stored in the input capacitors of their respective operational amplifiers, which produce corresponding output voltage signals V_b and V_w representative of the voltage magnitudes of the black and white samples. The black and white samples are held stored throughout the complete scanning of the complete document page and both of them are utilized continuously throughout this period to control the automatic background and contrast control operations of the ABC unit. In such operation the signals V_w and V_b are continuously combined in an operational amplifier to continuously produce a signal representative of the magnitude $V_w - V_b$. In addition, the received video input signal (designated V_{in}) is continuously combined in an operational amplifier with the signal V_b to produce an output signal representative of the magnitude $V_{in} - V_b$. The two output signals $V_{in} - V_b$ and $V_w - V_b$ are continuously combined in a divide circuit to produce a final output signal V_0, which has a magnitude representative of the quantity $\frac{V_{in} - V_b}{V_w - V_b}$. This represents a fully normalized and gain corrected signal which is corrected both for undesired voltage offsets and biases and for undesired gain variations. It is clear that the ABC unit of the present invention is characterized by fully automatic acquisition of separate black and white samples of the video signal by the continual storage of the separate black and white samples throughout the subsequent scanning and transmission of a document, and by the continuous use during such period of the separately stored black and white samples to continuously correct the video signal received during the scanning of the document. Moreover, the ABC unit of the present invention is further characterized by automatic production and sequencing of the separate black and white sampling signals in response to the corresponding

magnitudes of the ramp deflection voltage of the transmitter during the calibration scan.

Referring now in contrast to the Krallinger, et al. device, the Krallinger, et al. patent shows a drum-type facsimile transmitter receiver in which a black line or bar is provided the length of the drum along the left-hand edge of the document to provide a black calibration area at the beginning of each line. The white margin of the document immediately following the black bar provides the white calibration area. A sync signal is generated at the beginning of a line by a mirror and light combination which is aligned with the black bar and flashes a burst of light into a detector. This single sync signal is used as a sampling signal to store the corresponding black signal in the input capacitor of a controllable gain video amplifier to thereby set the reference level of the video amplifier. The immediately following white signal is not sampled or stored but instead, because of its appearance immediately following the black signal, is used in a servo operation to vary the gain of the controllable amplifier so that the amplified white signal is equal to a preset reference voltage V_r. This amplification or gain level once obtained, is held throughout the complete line by the cumulative charge stored in an error capacitor 52 which represents the cumulative level of the error signals produced in the slewing operations of the gain control servo of the amplifier. Capacitor 52 is a storage element but it does not store a sample of the white signal, and, moreover, a sample of the white signal is not stored at any place or position in the Krallinger, et al. circuit.

In the further operation of the Krallinger, et al. device, during the scanning of the line the input video signal, background corrected by the black signal stored in capacitor 20, is multiplied by the temporarily fixed gain of the

amplifier 24 throughout the remainder of the line so as to yield a background and gain compensated signal. It is clear, however, that a white sample is not stored or utilized during this operating period, and moreover, no divide circuit is utilized, the operation being merely that of setting the gain of the amplifier 24 and then using this fixed gain amplifier 24 as a multiplying or amplifying unit throughout the completion of the single line scan period. At the completion of each line scan the Krallinger, et al. circuit is reset by the sync pulse and repeats its calibration and operation functions during each successive line scan.

This operation of recalibrating at each line of the scan in the Krallinger, et al. device presents its own peculiar problems. If the black line or the white margin varies in shade along its length, this will result in different shading and contrast characteristics along the length of the document page being transmitted by the Krallinger, et al. transmitter.

The Johnson reference is merely cumulative to the Krallinger, et al. reference. The Johnson reference relates to an automatic gain control circuit for reading video signals recorded on a magnetic tape or other recording medium. The system assumes that successive black and white representing calibration signals have been inserted in the video recording in the blank or retrace area and these signals are used to set the gain of the following amplifier. As in the Krallinger, et al. device, the black signal is stored in a capacitor 55 to set a base voltage reference for the operation of the device. However, the immediately following white signal is not in any way sampled or stored but is instead used to control the setting of the gain of the variable amplifier of the device to bear a fixed relation to a reference bias. Thus, the ensuing white sample is not sampled or stored in any manner and is not available during the ensuing operation. What is used

during the ensuing operation is the stored black signal and the fixed gain of the variable amplifier which is held at a fixed gain level by integrated error charge on an error condensor 79. As in the Krallinger, et al. device, this charge on error condensor 79 represents the integral of the error values of the amplifier gain servo and is not a sample of the white signal.

It is, moreover, clear referring to the Krallinger, et al. and Johnson references that their circuitry and functions are so dissimilar that neither could be incorporated or combined with the other without destruction of both the primary and secondary reference. There is no teaching whatsoever for such combination and such combination could only be done by way of hindsight and through destruction of the operating circuitry of these references.

Referring now to the claims and keeping in mind the aforedescribed distinctions between the structure and function of the present invention and that of the references. It is clear referring to Claim 1, that although the references do show the element A of the combination ("means for storing a first sample of said input signal"), the references do not show the second element B of the combination ("means for storing a second sample of said input signal when said input parameter is at its second magnitude"). Thus, Krallinger, et al. or Johnson may show a device which stores a sample of the black value of the input signal but they do not store a second sample of the white value of the input signal. Similarly, referring to element C of the combination, since neither Krallinger, et al. nor Johnson store a second sample of the input signal, they have no apparatus which is operable during the operating period for "combining said input signal and said first and second samples to continually produce . . .". Moreover, in the present amendment in order

to further emphasize the above-described distinctions, Claim 1 has been amended at line 11, so that the last named means is recited as "continually combining said input signal and said first and second samples".

Claim 2 is dependent upon Claim 1 and is similarly allowable. Moreover, Claim 2 introduces as a claimed element of the combination a facsimile transmitter having document areas which are scanned therein to produce the black and white signals and the subsequent variable magnitude signal representative of the shade of document area scanned in the transmitter. It is noted that the secondary Johnson reference does not deal at all with a facsimile transmitter but instead depends upon the availability of recorded video signals on a magnetic tape.

Claim 3 is dependent upon Claim 2 and further distinguishes over the references by reciting the automatic sequencing operation of the present ABC systems in which the facsimile transmitter generates the ramp deflection voltage to deflect the scanning element across the document and the first sample of the input signal is automatically stored in response to the ramp voltage reaching a predetermined magnitude corresponding to the scanning of the first area of the document. No such automatic sampling operation is shown in the Krallinger, et al. reference in response to the magnitude of the ramp deflection voltage of the facsimile transmitter. In the Krallinger, et al. reference, the sampling signal for the black signal is produced by the flash of light from the sync mirror.

In Claim 4 a similar and second apparatus is recited for storing the second sample of the input voltage in response to a second magnitude of the ramp deflection voltage corresponding to the scanning of the second area. This entire

structure and operation is entirely absent in the applied references.

Claims 5, 6 and 7 are dependent upon Claim 4 and are similarly allowable.

Referring to Claim 8, this claim fully distinguishes over the applied references by its recitation of "a second circuit means responsive to said first and second samples for continually producing a second different signal representative of their difference in magnitude" and further distinguishes in its recitation of "divider circuit means responsive to said first and second different signals for producing said output signal representative of the quotient of their magnitudes". This structure and operation is entirely absent in the references which do not have a divider circuit and do not continually produce a difference signal representative of the difference of the first and second samples.

Claim 9 is dependent upon Claim 3 and is similarly allowable. Claim 10 is dependent upon Claim 1 and is distinguished over the references in the same manner.

In the present amendment in order to further distinguish Claim 10, the words "in shunt connection" have been provided at line 3 to clarify the nature of the connection of the storage capacitor to the input of the operational amplifier. Such connection of the storage capacitor is not found in the references.

Claim 11 is a dependent claim which includes most of the aforesaid described distinguishing elements including the production of both separate first and second sampling signals in response to corresponding voltage magnitudes of

the horizontal ramp deflection voltage and the storing of the first and second samples in response to the first and second sampling signals, all in combination with a facsimile transmitter which generates a ramp deflection voltage to deflect its canning element in the calibration scan across first and second calibration areas of corresponding first and second shades of darkness. Thus, Claim 11 is directed to the automatic sequencing of the sampling and hold operations and is clearly distinguished over the references.

Independent Claim 13 is similar in scope to Claim 1 and is distinguished in the same manner by its recitation of its second and third means. The references lack any means for storing a second sample of the video input signal or producing a second signal representing said stored second sample, and further lacks any means for continually combining said video input signal with said first and second signals during scanning of said source document areas. Claim 13 is dependent upon Claim 12 and is similarly allowable. Claim 14 is also dependent upon Claim 12 and is similarly allowable. Moreover, in the receiver of the Krallinger, et al. reference, the successive black and white signals applied to the receiver are merely arbitrary locally generated reference signals and have nothing whatsoever to do with the black and white signals generated by the calibration scan across the document as would be required by parent Claim 12.

Claim 15 which is dependent upon Claim 12 is similarly allowable and additionally describes in detail the manner in which the first and second sampling signals are generated in response to the successive voltage magnitudes of the ramp deflection voltage. Claim 16 is dependent upon Claim 12 and similarly distinguishes over the references.

Claim 18 is a method claim which recites separate storage of first and second samples and production of first and second signals representative of the stored first and second samples. Claim 18 further recites combining said first and second signals to produce a second output signal having a magnitude representative of their difference in magnitude and still further recites combining said first and second output signals. As has been previously discussed none of the references have any means for storing a second sample or producing a second signal representative of the stored second sample or combining the first and second signals to produce a second output signal representative of their difference in magnitude. Thus, method Claim 18 is clearly distinguished over the references.

Claim 19 is dependent upon Claim 18 and is similarly distinguished.

In view of the foregoing analysis of the distinguishing features of the claims in relation to the applied references, favorable action is respectfully solicited.

Respectfully submitted,

/s/ Seymour A. Scholnick

SEYMOUR A. SCHOLNICK
Reg. No. 18,037
Attorney for Applicant

9100 Wilshire Boulevard
Suite 710
Beverly Hills, California 90212

Telephone: (213) 550-8161

(3)

Supreme Court, U.S.
FILED
DEC 21 2001
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No. 01-541

IN THE

Supreme Court of the United States

ACCUSCAN, INC.,

Petitioner,

v.

XEROX CORPORATION,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITIONER'S REPLY BRIEF

JOHN F. SWEENEY
Counsel of Record
JAMES W. GOULD
KENNETH S. WEITZMAN
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, New York 10154
(212) 758-4800

Attorneys for Petitioner
AccuScan, Inc.

13 pp

PARTIES TO THE PROCEEDING

The names of all parties in the court whose judgment is sought to be reviewed appear in the caption of the petition for writ of *certiorari*.

Petitioner, AccuScan, Inc. ("AccuScan"), has no parent company and no publicly held company owns 10% or more of its stock.

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PETITIONER'S REPLY MEMORANDUM

I. THE DECISION BELOW UNQUESTIONABLY IMPLICATES *FESTO*

Xerox cannot dispute, and apparently concedes, that the Federal Circuit relied on its decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 234 F.3d 558 (Fed. Cir. 2000) (*en banc*), *cert. granted*, 121 S.Ct. 2519, 150 L.Ed.2d 692 (Jun. 18, 2001) (No. 00-1543), which this Court is currently reviewing, in reaching the decision below that there was no infringement under the doctrine of equivalents. In fact, the only reference in the decision below to infringement under the doctrine of equivalents comes in a single paragraph:

> For purposes of infringement under the doctrine of equivalents, the patentee is bound by the clear and unmistakable surrender of the structure employed by Xerox. *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co. Ltd.*, 234 F.3d 558, 564, 56 USPQ2d 1865, 1869 (Fed. Cir. 2000); *Texas Instruments, Inc. v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1173, 26 USPQ2d 1018, 1024-25 (Fed. Cir. 1993). Thus, none of the products in the four accused Xerox product lines may be held to infringe either of the asserted claims of the '144 patent either literally or under the doctrine of equivalents.

(AccuScan Pet. App. 13a).

Nevertheless, in opposing AccuScan's petition for a writ of *certiorari*, Xerox attempts to distance itself and the decision below from *Festo* by asserting that the decision below did not apply the "complete bar" approach to

application of the doctrine of equivalents announced in *Festo* (Brief In Opp., at 14-15), but instead applied what is more akin to the "flexible bar" approach where "courts examine the particular amendment made during prosecution and determine whether the accused 'device [was] similar to the prior art that had provoked the amendment.'" (Brief In Opp., at 15 (*quoting Festo*, 243 F.3d at 572)).[1] Consistent with the "flexible bar" approach described above, Xerox then goes on to argue that the Federal Circuit in the decision below "clearly did *not* rely on the *Festo* "complete bar," but instead ... carefully considered the arguments made by AccuScan and then examined whether Xerox's accused devices constituted the sort of devices disavowed by AccuScan during prosecution." (Brief In Opp., at 15).

This argument is nonsensical. The Federal Circuit could *not* have been relying on the "flexible bar" approach in the decision below, as suggested by Xerox, because, as acknowledged by Xerox, this approach had already been rejected by the *en banc* court in *Festo*. (Brief In Opp., at 15 ("The 'complete bar' approach should be contrasted to the 'flexible bar' approach ***rejected*** by the *en banc* court in *Festo*.") (emphasis added); *see also Festo*, 234 F.3d at 575 ("After our long experience with the flexible bar approach, we conclude that its 'workability' is flawed.")). Unquestionably, the citation to *Festo* in the decision below was not intended to and could not somehow alter the *en banc* court's *Festo* decision, which rejected the "flexible bar" approach to prosecution history estoppel.

---

[1] Xerox also cites to the Federal Circuit's decision in *Texas Instruments* to demonstrate that the court below did not apply *Festo*'s "complete bar" approach, but concedes that *Texas Instruments* was decided under the "flexible bar" approach, which approach Xerox acknowledged to have been subsequently rejected by the *en banc* court in *Festo*. (Brief In Opp., at 15, 17; *see also Festo*, 234 F.3d at 575).

Moreover, Xerox's suggestion that the Federal Circuit's citation to *Festo* in the decision below was not cited for the "complete bar" holding of that case, but rather only to provide a general description of the doctrine of prosecution history estoppel, warrants little response. (Brief In Opp., at 16). The fact that the page citation to the parallel "USPQ2d" citation may have been incorrect, particularly in light of the accuracy of the page citation to the official "F.3d" reporter, cannot alter the fact that the court below unquestionably relied on *Festo* to preclude AccuScan's reliance on the doctrine of equivalents.

Thus, should the Federal Circuit's decision in *Festo* be reversed or otherwise altered by this Court, then the decision below will be similarly affected, mandating at least a vacation and remand for further consideration.

II. THE DECISION BELOW NOT ONLY IMPLICATES *FESTO*, BUT SIGNIFICANTLY EXPANDS THE LAW ENUNCIATED IN *FESTO*

In opposing AccuScan's petition, Xerox also argues that the decision below does not "constitute an expansion of the Federal Circuit's decision in *Festo*." (Brief In Opp., at 21). To the contrary, however, as discussed at pages 13-17 of AccuScan's petition, the Federal Circuit, in the decision below, indisputably relied upon its claim construction determination to completely bar application of the doctrine of equivalents. (AccuScan Pet. App. 13a). This represents a significant expansion of the law enunciated in *Festo*, which held "that prosecution history estoppel acts as a complete bar to the application of the doctrine of equivalents when an amendment has narrowed the scope of a claim for a reason related to patentability." *Festo*, 234 F.3d at 574. Thus, the decision below raises the question of whether *Festo*'s

"complete bar" approach for narrowing *amendments* in the patent prosecution history should be extended to *arguments* as well.

Here, the Federal Circuit's claim construction analysis turned on statements made by the patentee in the '144 patent prosecution history, as opposed to a narrowing amendment to the claims.[2] (AccuScan Pet. App. 8a-13a). Thus, despite the absence of an explicit claim amendment, the Federal Circuit, upon completion of its claim construction analysis, invoked the law announced in *Festo* and summarily precluded any finding of infringement under the doctrine of equivalents. (AccuScan Pet. App. 13a).

While Xerox does not dispute that the Federal Circuit relied on its claim construction analysis in precluding infringement under the doctrine of equivalents, it nonetheless argues that determination of literal infringement and prosecution history estoppel "are often made based on the same underlying facts" and that this Court should imply that the Federal Circuit conducted a separate, detailed analysis to determine whether prosecution history estoppel precluded application of the doctrine of equivalents. (Brief In Opp., at 18-19, 21). Not only is the decision below silent with respect to the exact basis for precluding application of the doctrine of equivalents, but it is well established that consideration of

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[2] While one of the claims at issue—Claim 1—was amended during prosecution of the '144 patent, the Federal Circuit did not rely on that amendment in the decision below, but rather on statements directed to non-amended claim limitations that accompanied the amendment (*i.e.*, the "separate storage" and "division" limitations). There is no reference whatsoever to the claim amendment itself in the decision below (AccuScan Pet. App. 8a-13a), yet Xerox expressly argues amendment of Claim 1 as a basis to support the Federal Circuit's decision. (Brief In Opp., at 8, 20 n.4).

statements made in the prosecution history for the purposes claim construction is *entirely distinct* from consideration of those statements for purposes of prosecution history estoppel:

> Southwall seems to imply that principles of prosecution history estoppel are relevant in the claim construction step of a determination of literal infringement. ***There is, however, a clear distinction between following the statements in the prosecution history in defining a claim term, and the doctrine of prosecution history estoppel***, which limits expansion of the protection under the doctrine of equivalents when a claim has been distinguished over relevant prior art. *Biodex Corp. v. Loredan Biomedical, Inc.*, 946 F.2d 850, 862, 20 USPQ2d 1252, 1262 (Fed. Cir. 1991), *cert. denied*, 504 U.S. 980, 112 S.Ct. 2957, 119 L.Ed.2d 579 (1992). Claim interpretation in view of the prosecution history is a preliminary step in determining literal infringement, while prosecution history estoppel applies as a limitation on the range of equivalents if, after the claims have been properly interpreted, no literal infringement has been found. *See Senmed, Inc.*, 888 F.2d at 818-21, 12 USPQ2d at 1511-13. ***The limit on the range of equivalents that may be accorded a claim due to prosecution history estoppel is simply irrelevant to the interpretation of those claims***.

Southwall Technologies, Inc. v. Cardinal IG Co., 54 F.3d 1570, 1578 (Fed. Cir. 1995) (emphasis added); *see also Spectrum Intern., Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1378 n.2 (Fed. Cir. 1998).

In sum, the decision below not only relied on *Festo* to preclude application of the doctrine of equivalents, but it significantly expanded upon the law enunciated in that case to completely bar any range of equivalents based solely on statements made in the patent prosecution history, as opposed to a narrowing amendment.

III. THE DECISION BELOW ERADICATES SEVENTH AMENDMENT GUARANTEES

Xerox also argues that the decision below does not implicate any Seventh Amendment concerns because the application of prosecution history estoppel is a question of law that was "correctly" applied in the decision below. (Brief In Opp., at 21-23). Nevertheless, the issue of whether an accused device infringes, literally or under the doctrine of equivalents, is a factual issue that was properly submitted to the jury below, which twice rendered a verdict for AccuScan. The Federal Circuit's decision, under the guise of claim construction and prosecution history estoppel, has improperly taken away those verdicts. By blurring the distinction between the analysis underlying claim construction and that underlying prosecution history estoppel, the Federal Circuit, without explanation of its reasoning, has effectively removed from the jury the right to consider the issue of infringement under the doctrine of equivalents when claim construction is informed by *arguments* made in the patent prosecution history.

The Federal Circuit's failure to differentiate between the claim construction analysis and prosecution history estoppel is further compounded by the fact that, despite Xerox's suggestion to the contrary (Brief In Opp., at 23), the Federal Circuit improperly construed the '144 patent claims to be limited *beyond* the arguments made in the prosecution history. *See Cybor Corp. v. FAS Technologies, Inc.*, 138

F.3d 1448, 1458 (Fed. Cir. 1998) (*en banc*) (recognizing that the prosecution history should not limit scope of claims beyond arguments made by the patentee to distinguish over the prior art).

Specifically, with respect to the "division" limitation, despite acknowledging that "a signal representative of a division or a signal representative of a quotient may be obtained by multiplication of a reciprocal—as is done in Xerox's DocuTech system—or by subtracting logarithmic values—as is done in Xerox's 5775 copier" (AccuScan Pet. App. 9a-10a), the Federal Circuit nevertheless concluded that there could be no infringement of Claims 1 and 17 of the '144 patent because "AccuScan explicitly disclaimed such an interpretation during prosecution." (*Id.* at App. 10a). In reaching this decision, the court below erroneously concluded that the patentee had disclaimed every form of multiplication, when, in fact, the patentee had simply distinguished the claimed invention over the mathematical function utilized in the prior art reference. Furthermore, the Federal Circuit failed to recognize that a reciprocal—as used in Xerox's accused DocuTech system—is by definition, and in accordance with the substantial evidence at trial, a division into one, thus satisfying even the appellate court's narrow interpretation of the claims.

Similarly, the decision below also cited to statements made in the prosecution history of the '144 patent to unduly limit the claims to storing the white reference (V_w) in its "pure form," when no such statement was ever made. (AccuScan Pet. App. 13a). In contrast, the '144 patent prosecution history unequivocally evidences that the prior art was distinguished based on its failure to continually use the white reference (V_w) throughout the scan of the entire document; the prior art reference determined a new V_w from the white margin of each line of the document (line-by-line calibration). Thus, the prior art reference totally discarded

the initially measured V_w so that it was not available to correct the input signal throughout the scan of the document. Nevertheless, the court below narrowly construed Claims 1 and 17 of the '144 patent to "require continuous 'storing' of the V_w value in its *pure form*, and continuous 'combining' of this value throughout the scanning of the document." (AccuScan Pet. App. 13a) (*emphasis added*). Such a narrow construction misconstrued and unquestionably exceeded the patentee's statements made in the '144 patent prosecution history to distinguish the claimed invention over the prior art. There is no statement in the prosecution history that V_w must be stored in its "pure form," only that it must be stored.

Thus, not only did the Federal Circuit unduly limit the '144 patent claims in connection with its claim construction based on an overly broad reading of arguments made in the prosecution history, but the appellate court then improperly relied on that claim construction analysis to completely bar application of the doctrine of equivalents without further explanation. Instead, relying on its decision in *Festo*, the Federal Circuit summarily estopped application of the doctrine of equivalents, which, if left unchecked, will effectively deprive AccuScan and future innovators of the right to a trial by jury on the issue of infringement under the doctrine of equivalents when claim construction is based on *arguments* made in the patent prosecution history.

CONCLUSION

The petition for a writ of *certiorari* should be granted and the judgment below reversed.

Respectfully submitted,

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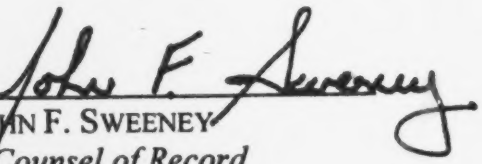
By: 

JOHN F. SWEENEY
Counsel of Record
JAMES W. GOULD
KENNETH S. WEITZMAN
MORGAN & FINNEGAN, L.L.P.
345 Park Avenue
New York, New York 10154
(212) 758-4800

Attorneys for Petitioner,
AccuScan, Inc.